messing about in BOATS

Volume 31 – Number 9 January 2014

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A Sailing Canoe Adventure – Adventures on the Erie Canal
A Steam Canoe – A Lot Easier with Many Hands
Snipe Junior…a 20" Racing Model
Hoisting the Lugsail into the 21st Century

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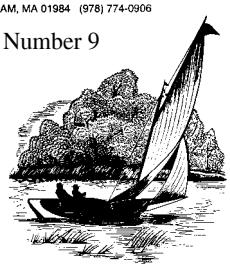

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Address is 29 Burley St
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Telephone is 978-774-0906
There is no machine
Editor and Publisher: Bob Hicks
Magazine production: Roberta Freeman
For subscription or circulation inquiries or problems, contact:
Jane Hicks at
maib.office@gmail.com

In This Issue...

Commentary...

Bob Hicks, Editor

In his ongoing series "The Bucket List" (pages 24-30, another long read), Dan Rogers has gotten caught up in a flood of creativity, which has him undertaking to turn a castoff fiberglass inboard runabout into a sort of tugboat cruiser. I like the way he has no plans, he's just winging it "by eye," for example establishing the cabin height by hoisting an already assembled cabin roof over the hull until it got to where it had enough headroom and it still looked "about right." He then proceeded to build the cabin house beneath the suspended roof, determining number and placement of windows, bow hatch, etc as he went.

One remark he makes indicates where he was headed: "Standing up under a roof next to a cabin heater and watching the rain fall outside becomes a mission essential feature after a long career of standing in an open sailboat cockpit with that steady drip from topping lift to shirt collar." Aha, it's shelter that he's after! There's something about standing under a roof near heat and watching the cold rain fall outside that appeals to our prehistoric instincts. Like, let's head for the fire in the cave.

I note in reading *Soundings*, which caters to the consumer boaters who way outnumber us small boat types, that a favorite fallback for aging sailors tired of that "steady drip" in the cockpit is the trawler yacht. In effect a waterborne version of a motor home, the trawler yacht provides some ongoing enjoyment afloat after all the challenges of sailing become obstacles and the discomforts overrule the adventure. It appears that Dan, who has a long, long history of sailing in all sorts of conditions and even lived aboard a sailboat in sunny San Diego, is opting for the comfort and utility of motor powered cruising under cover (with heat!) now that he is living in "Almost Canada," to quote Floridian Dave Lucas' assessment of living in northeastern Washington State.

L. Francis Herreshoff made much of having comfortable shelter afloat in his book, *Sensible Cruising Designs*, albeit his concept of comfort was somewhat more Spartan than that envisioned by today's cruising types. Standing headroom was not a major thing for him, for instance. But the notion that one can cruise under sail or power with some degree of personal comfort is hardly new. The inclusion of some sort of stove aboard (for heat in our non Florida climes) appears often in old boat designs and the users thereof often comment quite favorably on this.

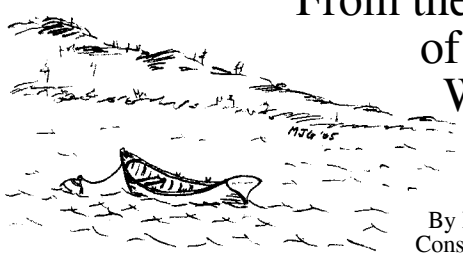
In our very earliest venturing out into the world of sailing to look at sailboats at the Newport Sailboat Show (about 1978 or so) it quickly became apparent to me that what I was thinking of about sailing (sailing a boat over the sea) was not foremost in the salesmen's minds when at one floating Winnebago of a sailboat (high sides, tall house all in 28') the salesman bypassed me completely and invited Jane below to view the interior comforts and conveniences. I gathered from this that any guy contemplating buying a cruising sailboat had better get his wife "onboard" if he was going to realize his dream. Comfort and convenience rule in the consumer boating world.

I did fall for a sort of compromise, Peter Duff's 24' Stonehorse, with its flush deck offering well thought out sitting headroom comforts including a stove! At about $20,000 (then!) it was way beyond our means. And later on I came to realize that starting into this new game at 50 was not the same as so doing at 18. My willingness to accept discomfort and struggle to pursue a potentially exciting new game had been used up in my 30 years of motorcycling during which hitting the ground at speed (a quite high level of discomfort) had happened from time to time.

If there's one thing that I really miss as an old man now it's that carefree attitude of youth when I was ready to take on almost anything that appealed to me. Over the intervening years I did indeed do so to the extent possible within my finances and skills. Many of you did likewise, I'm sure, to greater or lesser degree. The onset of responsibilities as the years passed by put such carefree abandon behind us. And now when it is sometimes possible to get out there again and risk some new adventure I just don't seem to feel like it. I have settled for much downsized adventuring with which I am still "comfortable."

On the Cover...

"Hoisting the Lugsail into the 21st Century" is a nine-page feature in this issue lifted from *Dinghy Cruising*, the Journal of the Dinghy Cruising Association (UK). It is a surprisingly entertaining read as well as covering all you ever will need to know about using this long established traditional sail.



From the Journals of Constant Waterman

By Matthew Goldman
Constantwaterman.com

Awoke to find dawn obscured by overcast, though visibility still a couple of miles. Only a handful of boats still in Potter Cove and only two other sailboats even occupied. Weather calls for a little wind, a little rain, and a squall of terns having breakfast on a school of baitfish outside the harbor.

But tomorrow bodes ill for a fair weather mariner like myself: rain and rain and possible thunder squalls and numerous drops of fresh water all descending all at once. I need to hole up somewhere all day tomorrow, and Potter Cove, though snug and lovely, is not my primary choice. The chance of precipitation waxing greater this afternoon, I pack my toys and depart. I put on my foul weather gear over my underwear just in case, but soon take off jacket to avoid being listed on the bill of fare as poached.

I've programmed several waypoints into my handheld GPS in case the fog rolls in or the clouds descend or night comes half a day early. But the GPS will not home in on satellites today. Mars is too close to Earth this week, or the Age of Aquarius stalled on the cusp of Reason. Whatever the cause, I have no navigation powered by electrons. As visibility seems to improve somewhat, and I have but a dozen miles to Dutch Island Harbor, I risk invoking the wrath of the gods and go.

Dutch Island is just down the way and around the bend. I carefully plot the aforesaid on my cortex and wiggle the helm. As the wind is off aiding some other sailors today, I motor the whole twelve miles, but leave my mainsail flapping to impress any motorboats I may encounter.

A massive freighter makes her way up West Passage. Behind her, the impressive Pell Bridge, connecting Jamestown to Newport, rises majestically through the haze. Her huge suspension towers nearly disappear in the low-slung sky; her mile and a half of curvaceous deck ascends 200'; the catenary of her cables swoops to perfection; her vertical cables must be imagined at eight miles.

When I've motored half that distance, I've reached the foot of Prudence Island. I head due west to the farther shore of Jamestown, then follow that south. Near the head of Conanicut Island, site of Jamestown, stands a stately, antique homestead among large trees. An imposing, faded-yellow clapboard house with a large veranda, interesting roof of hips and gables, massive redbrick chimneys, stately lawns. The faded-yellow carriage house/barn nearby has an unusual swoop to its roof; the tall, fieldstone wall beside it is perforated by a row of lights below its cope. To the south there is not another house for nearly half a mile.

I head as close to shore as I dare and wish I had a camera, not for the first time. Next, the Jamestown-Verrazano Bridge, connected to North Kingstown, arches its back. This is the bridge I passed beneath on Friday. Another mile brings me to Dutch Island. Behind it lies a mile-long harbor, half a mile in breadth. A couple of hundred boats swing on their moorings. Stately private houses flank the Jamestown shore above the marina, but the northernmost reach of the harbor remains conserved and wild. Two hundred yards above the first house and mooring lies a marsh and low meadows. Here, Conanicut Island constricts to scarcely a mile wide; it may have been two islands at one time. Through and above this gap in the trees, the bridge to Newport looms.

I motor close to shore and drop my hook. I must make a sketch of this Pell Bridge ere I depart, though black and white will scarce convey the muted green steel, the darker trees, the silver harbor, the opalescent sky. The cables that swoop from shore to tower, tower to tower, and back to the farther shore, begin to fade in the mist.

I go below to make a belated lunch. Suddenly, *MoonWind* bumps against the bottom. There were eight feet of water where I dropped anchor; the tide was nearly out. I dash aloft and look over the side. A slab of seaweed covered rock grins hugely up at me. I haul my hook and motor a hundred yards and try again. Now I have a better perspective from which to sketch the bridge.

As I finally devour my lunch at three o'clock, a pair of loons, half changed to their winter mantles of brown and white, sport about MoonWind. I treat myself to coffee, and, reclined in my cockpit, watch these beautiful creatures enjoy the water.

You write to us about...

Adventures & Experiences...

Just Getting Out There and Doing It

I thought you'd appreciate a photo of your old blue Seda Glider and to know she gets lots of love and use. This picture is from the Josh Billings Race in Lenox, MA back in September. The TRC decals are for my environmental consulting firm, TRC Environmental Corporation. I turned 60 this summer and also have been turning in some of my best times ever, but who cares. As I always tell everybody, it's not about the result, it's about just getting out there and doing it.

I want to share with you an essay my daughter Leila wrote for one of her college applications this fall. The subject was ''briefly elaborate on one of your extracurricular activities." She came up with this all by herself. Although she's certainly seen me reading your magazine and witnessed the stacks of back issues in my study, I don't know if she actually ever read one. Looks like the small boat bug is in her genes and at 5'11" she is a natural at the oars. I always felt our time together on the water was special, but I guess I didn't know how much it meant to her as well. Kinda warms a daddy's heart.

Martin Dodd, Windsor, CT

As the Water Rat said in Kenneth Grahame's *The Wind in the Willows*

"There is nothing, absolutely nothing, half so much worth doing as simply messing about in boats."

There is perfection to the body movement required for each stroke of the oars. The power spark behind the perfect stroke starts in my legs, travels up and through my core, and out the palms of my hands all the way into my fingertips as the oar handles come towards my belly and the shell is propelled forward, quietly rippling the surface tension of the water.

The pursuit of this perfection is what drives me to keep sculling. It began as a bonding experience for my father and me, as he taught me the fluidity of the movements required by a single person to move a rowing shell, movements that he has long practiced. There is nothing simpler or more relaxing than being the only person on a river or a lake, just you and your shell, gliding silently. These moments are cleansing and are made for thought and selfexploration. When my father and I row together, we don't speak, but there is a silent connection between us as we both pursue the perfect, fluid stroke.

With all that is going on in my life right now, applying to colleges, the pressure to do well in school, the demands of my other clubs and sports, I can forget it all in my quest for the perfect stroke, the one where the boat and I are mere extensions of each other, and I enjoy the magic of simply messing about in boats.

Leila Dodd

A Few Observations

Deep Creek isn't. Fuel fittings don't. Observation #1 was noted when we entered Deep Creek (of Newport News, VA) in a fixed draft inboard ski boat. We unwisely continued upstream beyond the visible boat docks without a detailed chart. We got stuck in very soft mud. With PFDs on, we belly surfed at the transom while pushing against tenacious mud with our feet, nearly losing our sandals in the process.

Observation #2 came when I replaced an old fuel hose from an equally old 6 gallon tank serving an outboard motor. Initial connection and disconnection were very stiff, but we cruised successfully several times. On my pre-winterization weekend the primer bulb baulked, and then regurgitated gas abundantly on the tank fitting. The hose wouldn't connect to the spare tank at all. After cussing the fitting manufacturer soundly, I subsequently discovered that the old tank barb was plastic, and the tip had broken off inside the new female fitting (beware of aging gas tank barbs!). Despite these setbacks, there is still "nothing half so much worth doing as simply messing about in boats". So a salute is in order to Kenneth Grahame, originator of the phrase.

Jim Niederlehner, Roanoke, VA

Our Escape Capsule

Sorry we misplaced your renewal notice, we misplaced about six months of our lives after Sandy hit us. We got out of our house here in Brick, NJ away from Sandy in our CLC Wherry. Some people didn't get out for several days. My little wooden boat is now called our "Escape Capsule".

Patrick Roche, Brick, NJ

It's Been a Long Time

It's been a long time since an overnight camping messabout has happened at Fiddler's Cove. The whole place right now is one big construction site. The main dock has been lengthened, and completely rebuilt. It's now concrete instead of wood planks. New electrical and water stations are in. The slips all the way to the east end are incomplete and there are no boats in any of them. My *Precious* has been taken out of her slip by the dinghy dock, and tied up way out at the east end of the new concrete main walkway. I have no idea when the docks will be completed.

Precious looks terrible and I have solved the biggest problem, the rail around the boat. I left it unvarnished three years ago and the elements have done their evil work. The cap rail has been cut off, including the tops of the screws. New screws have been countersunk in between the old ones. The black holes where the plugs were have been dug out and the holes have been filled with epoxy. A new cap rail is being attached tomorrow. This is being done by a professional. It will be coated with bulletproof stuff and painted, not varnished. I will be responsible for everything I can reach without kneeling. I am still undecided about doing a complete rehab on the boat. She is still dry inside, is in sailing condition, very solid, but cosmetically needy. The job on the rail alone is costing $1,700. I must be crazy. Totally.

The RV park is another construction site, but it is almost complete. All that is left is the sewer system. All pads will have electricity, water, wifi, TV, cable and sewer hookups. Hardly camping by our Scuzbum standards. The trench for the sewer system is open and runs from the RV park up past the office. The marina manager said it is due to be complete and ready by January 15. What's it been? Three years? Four? Seems like forever.

The one thing we all hoped would be improved is not. The launch ramp is still the same, a pain. It's on the list. Right. I hope to see we Scuzbums gather here again before we're all too old to remember how much fun we had. Look for a camping messabout invitation in late January or so.

Annie Holmes (ScuzMum), San Diego, CA

Information of Interest...

Center for Wooden Boats
30 Years and Growing

When The Center for Wooden Boats was in our collective womb, we visualized it as a Victorian environment. There would be small, craftsmanlike rowing and sailing boats accessible and affordable to rent. We must have succeeded; in August, 1983, the first year of our operations at South Lake Union here in Seattle, a group of people decided to have a Victorian rowing party at CWB.

Year by year, we enhanced and upgraded our learnbydoing programs. Our aim was to involve our community's diverse urban population in experiences that imade them aware of their maritime heritage and gave them maritime skills to use for a lifetime.

From the beginning, there were wait lists for adults who wanted to take our sailing and boatbuilding instruction. Our floats and rowing boats were filled with elementary school kids, but there were no middle or high school youth. We knew our handson programs could help make them great achievers in math, science, history, teamwork and leadership. Alas, principals would not agree to exchange textbooks and white boards for building and using historically significant boats.

The only option we could find to involve teenagers was to bring in those who were not in school. Social service agencies found hordes of teenagers who had been kicked out of school and we started a program for them: "All Aboard", a summer day camp. They learned to sail a variety of small craft and undertook woodworking projects, including traditional boatbuilding. The effect of "All Aboard" was phenomenal. The kids evolved from their grim expectation of yet another academic environment in which they would fail to highconfidence individuals looking for more complex problems to solve.

The first "All Aboard" group of six boys and six girls, all 16vearolds, not only built a 24' umiaq and learned to sail our boats, they also built their own toolboxes, designed and built a ropemaking machine, wrote a poem on the launching of the umiaq and composed a song that included the words "hydrodynamic" and "aerodynamic"

From a Victorian boating party to programs for disadvantaged youth, CWB has found time and space to accommodate a variety of activities for a growing audience. For 30 years we have added more and more boats, floats and workshops. Today, we are taking our biggest step forward: adding an Education Center that is three times bigger than the other buildings on Our Waterway #4 site. I've always pushed for more challenging workshops because I know the more opportunities we offer, the more participants will come from public schools, private schools, alternative schools and home schools.

The Education Center is going to take CWB to a new orbit. It will give our community more boats operational, more exhibits, more events and more junior boatwrights and admirals. It's a rock solid building, but it's also going to be transparent. There will be magic in large side walls that can open up and let the sun in and other walls that have glass battens, similar to the slots between boards of the Victorian era boatshops. Functionally and esthetically, the Education Center meets and beats all we now have for Our quirky, innovating and sometimes Victorian direct experience museum.

Dick Wagner, Founding Director, Center for Wooden Boats, Seattle, WA, cwb.org

About Avenger Yachts

My father was Daly Highleyman. His company was Avenger Yachts, Inc., 4400 Ponce de Leon Blvd., Coral Cable, FL. Later, he merged with Pembroke Yachts and was President of Avenger-Pembroke Yachts prior to being forced, by his physician, to retire. Broke his heart.

His boats were the first fiberglass yacht/sedan fishermen ever built. They won awards at boating shows around the country. As a family, we enjoyed many trips on his *Daly Double*, trips to the Florida Keys and to Bimini.

The Avenger Sedan Fishman rode smoothly over rough water. With over 6"3" headroom, the interior was comfortable and easy to maneuver around. There were over 100sf in the cockpit area plus a concealed galley unit which converted from an attractive counter into a full galley in the salon. The boat also had two staterooms, each with a head and one with a hot and cold shower, plus skylight hatches in both. The safety glass in the main salon was tinted so we could sit comfortably inside and enjoy the outside. On the fly bridge, there were full controls. Crossing the Gulf Stream, which is often rough, we would sit up there with my father and enjoy the view while he steered the boat from Florida to the Bahamas.

My father grew up in Coconut Grove, Florida. His father, Locke Tiffin Highleyman, moved to Miami in 1901 (my father was born in 1905). My grandfather developed Point View, Palm Island, Hibiscus Island and other properties by dredging the water and creating the islands and areas. He would take people out in his boat, point down to the water and say, "This is where you will be living."

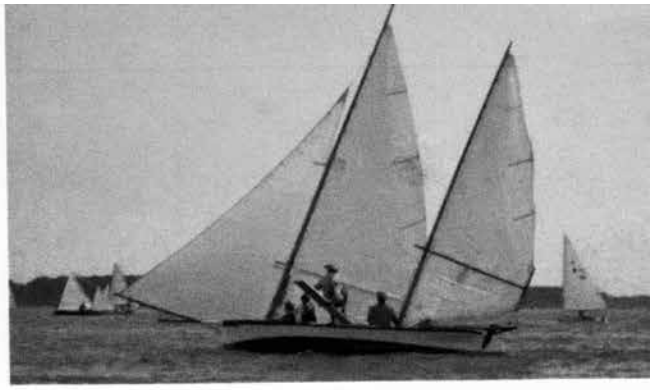
"What?" they would exclaim before understanding the process.

Patricia Daly Lipe

MASCF XXXI

By Frank Stauss – Photographs: Dave Soltesz, Bill Rutherford, Phil Maynard, Frank Stauss

If I was asked to pick the weather for the 2013 Mid Atlantic Small Craft Festival I couldn't have done any better than what Mother Nature did for the event's 31st edition. To say that it was beautiful, stupendous and wonderful would be good descriptions. In the past I have been frozen, almost drowned and blown into the next county at this event. Not this time, however. It felt like July without the humidity. Perfect in every way. Great sailing, paddling and rowing in addition to really good food and friendship was the order for the weekend. I can't wait for next year. Hopefully Mother Nature will be kind again.



Views of the 2013 Old City Seaport Festival

Photographs By Mike Bill and Frank Stauss

Reprinted from *The Mainsheet*
Newsletter of the Delaware River Chapter TSCA

Sail Around Long Beach Island

By John Depa
Reprinted from *The Mainsheet*
Newsletter of the Delaware
River Chapter TSCA

One advantage of being retired at the Jersey Shore is being able to make spur of the moment sailing trips aboard my 19' West Wight Potter *Jitterbug*. Usually they are merely day sails on nearby Great Bay, but there have been much longer adventures as well. On Sunday, September 15, conditions were near perfect for a mini trip that I had long thought of making "someday." Winds were predicted WNW 5-10, gradually swinging to the north on Monday with only a 40% chance of a shower. Furthermore, by leaving early Sunday morning I could take advantage of favorable tidal currents for 80% of the journey.

As is often the case, we travel far and wide to explore new waters, yet ignore the gems located in our own back yard (in my case literally), so it was with eager anticipation that I decided to go. The float plan was to enter the ocean via Beach Haven Inlet, which is no longer marked yet quite navigable, take the outside (ocean side) route north to Barnegat Inlet and return home the following day via the inside (ICW) route. As a precaution, I packed all necessary provisions for a four day cruise. Since *Jitterbug* is tied to one of my floating docks, it was quite simple to cast off her mooring lines to begin the journey at 8am on Sunday morning.

There are two ways to access Great Bay by motor boat from my location but the short route is blocked to sailing vessels by a low fixed bridge. So I had to motor three miles through aptly named Roundabout Creek to enter the Mullica River just before it empties into the bay. Once in the river, I hoisted sail in very light air and took advantage of the outgoing tide to make headway. It was a beautiful, crisp, clear day which made the Atlantic City skyline appear much closer than it actually is.

An hour and a half later I passed the old fish factory located on Fish Island. Years ago the plant processed menhaden (bunker) into fish oil, chicken feed and fertilizer. It was quite an operation that supported a fleet of 27 fishing boats and employed hundreds of workers. It even had an air strip so dignitaries could fly in for a few days of duck shooting on nearby sedge islands. But alas, like much of the commercial fishing industry, the bunker stocks were soon depleted to the point that operations were completely shut down.

Fish factory.

At this point the channel narrows, increasing the tidal flow towards the inlet. Just around the bend from the fish factory is another famous landmark, the old Coast Guard Station. It ceased operations years ago and is now used by Rutgers University as part of their Marine Biology program. They maintain a small fleet of boats and are very active in research, utilizing both student interns and local volunteers. It's amazing how this structure has withstood so many storms and hurricanes over the years.

Old Coast Guard Station.

The tidal current is quite strong here so it didn't take long to reach Holgate, which is the southern tip of Long Beach Island. This southernmost section is a wildlife sanctuary, closed to the public during the shore bird nesting season. It opens again after Labor Day and is very popular with beach buggy fishing enthusiasts, especially those seeking striped bass. This also marks the beginning of what was once Beach Haven inlet. It is no longer maintained with markers but is still quite navigable and is used by locals headed in a northerly direction.

Once I was in the ocean, the wind and current diminished and I was forced to start the 6hp outboard motor to make headway up the beach, going a bit further offshore in a search for more air. I am not a sailing purist, I wanted to cover the 21 miles to reach Barnegat Inlet during daylight hours so I had no qualms about using the outboard if needed. The smooth water allowed seeing schools of dolphin on their southern migration. One school stopped long enough to play at *Jitterbug*'s bow for a few minutes.

Along with dolphin, there were also quite a few cruisers, both power and sailing, heading south. It took almost two hours to reach Beach Haven, LBI's southernmost tourist attraction. This is home to the *Miss Beach Haven* charter fishing boat and the *Black Whale*, which makes daily casino runs to AC during the summer months. A few miles south of Ship Bottom, which is about mid point on the island, the breeze had picked up enough that I could raise the outboard and travel by sail power alone while still keeping the GPS Barnegat Inlet destination ETA at 6pm. That would give me time to navigate those "tricky" waters and find safe anchorage inside for the night.

It was such a beautiful day that there were a few bathers taking in that last bit of summer. September is a time of transition, with snow bird cruisers heading south and bikini clad girls still sunning on the Jersey beach. As the afternoon wore on the breeze increased and clocked around to the SSE to the point where *Jitterbug* was on a broad reach sailing under main alone. We actually hit 8mph a few times, which is flying for a 19' Potter. *Jitterbug* has many redeeming qualities but speed is definitely not one of them. Neither is handling rough seas and Barnegat Inlet is famous for "confused waters," so I was on edge navigating through this unfamiliar area. It didn't help that the Sunday evening boat traffic was on the heavy side. It seemed that every mega yacht was trying to make it in as quickly as possible with small boats considered minor annoyances. They make one hell of a wake!!

Ship Bottom LBI.

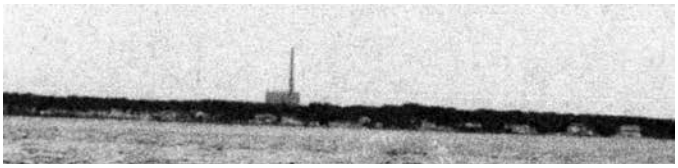
Barnegat Light LBI.

Fortunately the stiff breeze and strong favorable tidal current made for a quick passage. Once I was through the inlet it was no problem finding safe mooring, there were seven to eight cruisers anchored in a well protected cove with a nice view of LBI and Island Beach State Park. I found a location inshore of the fleet and set two anchors, Bahamian style, for the night, the end to a perfectly wonderful day on the water.

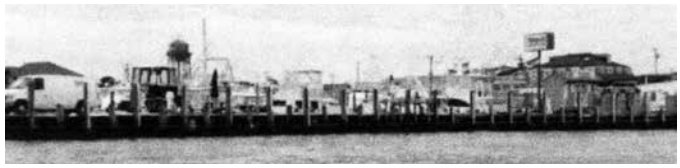
Woke at 6am on Monday morning to begin my sleep aboard ritual, make oatmeal and a thermos of tea while listening to the VHF weather channel. Prediction was for light westerlies in the morning, clocking to the north and increasing to 10-15 in the afternoon with a 60% chance of heavy showers. It got a bit lumpy from the wakes of commercial fishing boats headed out the inlet but they made a beautiful sight. Also, I saw many more pelicans than are at the southern end of the island. Perhaps they nest on Island Beach State Park?

Atlantic City skyline.

Holgate Wildlife Sanctuary LBI.



Oyster Creek Nuclear Power Plant.



Beach Haven Marina.

Morning ritual completed, I hoisted anchor just before 7am. GPS tide chart indicated we still had two hours on incoming tide which compensated somewhat for the light air. However, once the course swung west into Double Creek Channel, *Jitterbug* was nose to the wind so I was forced to start the outboard. The channel is very narrow and somewhat shallow in spots, even at high tide, and recreational boat traffic increased. It is here that I picked up the first landmark, Oyster Creek Nuclear Plant, en route to the ICW.

This late in the season, on an overcast weekday, there was very little boat traffic in the back bays. In fact, I don't recall seeing ten boats during the entire 21 mile run down the back side. Much of the ICW consists of dredged channels and winds through several sedge islands, but the wind did pick up later that morning. By the time I reached the Causeway (Route 72) Bridge, *Jitterbug* was making decent speed under sail alone, even without a tidal current. The bridge is roughly the mid point of the island. For safety's sake, I motor sailed under the bridge.

A mile or so south of the bridge Little Egg Harbor Bay opens wide and I got the full benefit of a steadily increasing breeze and also picked up an outgoing tidal flow. Those final ten miles provided the most spirited long distance sail I have ever had. *Jitterbug,* sailing on a broad reach, was consistently making 6mph and registered 9mph (on the GPS) for brief

Route 72 Causeway Bridge to LBI.

periods. We sped past the crowded Breach Haven complex with partially furled genoa. The marina there is home to the *Miss Beach Haven* charter fishing boat and the *Black Whale*, an AC casino shuttle boat.

As the predicted cold front approached, the sky darkened, wind increased and it began to rain. Even under these adverse conditions the sailing was enjoyable. Quality foul weather gear kept me reasonably dry and I held a small umbrella over the GPS. We still made excellent speed to Holgate, where the course turned west into the channel entering Great Bay. At that point the pleasant sailing came to an abrupt end, wind on the nose, against a strong tidal flow, in heavy rain. I had no choice but to douse sail and motor into Great Bay. Once inside the bay, I could at least motor sail the remainder of the route to home port. GPS logged 70.6 miles for the circumnavigation.

A few hours after I arrived home the sun peeked out and the wind completely died. I raised *Jitterbug's* sails to allow them to dry before furling and covering. Even though the rain put a mild damper on the trip, it was still quite enjoyable. It may well become an annual event for me.

19' West Wight Potter *Jitterbug*.

CubCraft

In 1964 my father came home from Albany Outboard with a 13'6" fiberglass tri-hull CubCraft skiff similar to a Boston Whaler. It had two seats, a bow deck with storage underneath and was rated for a 40hp outboard. It had a new tiller steered 9.8hp Mercury that would just plane off with my brother and me if we didn't have anything else in the boat. We took this skiff everywhere, often towing it behind the family 42' Matthews *Boomerang*. Over the years it made many trips down to the Keys, Sanibel Island and all over the panhandle of Florida.

Here the CubCraft is being towed behind the *Boomerang*.

A family friend of ours, Dr Bridger, bought a sister CubCraft and had a four cylinder 50hp motor installed. Man, would it FLY! Someone told him to watch the birds (seagulls) and if he saw any, to fish there. It became quite funny as his wife Mary would say, "There goes a bird, Clarence," and they would tear out. We watched them for hours while we fished, racing back and forth across the bay chasing after birds.

It soon became obvious even to Daddy that the 9.8 Mercury was too small a motor, so he traded it in on a 20hp Mercury tiller steered manual-start as the 9.8 was. I know you will think that this is a fish story but we woke up one morning and while Mother was fixing breakfast on the *Boomerang*, Daddy, my brother and I went out in the CubCraft and caught over 300 speckled trout before breakfast.

We filled the one cooler that we had with us and then just started throwing them in the bottom of the boat. We caught them just as fast as we could cast. Another weekend our little group caught over 800 speckled trout and cleaned them at the city marina. WE are the reason there is a limit nowadays. On Saturday nights we would take our fish to the back door of The Hut restaurant in Appalach and they would take them, clean and cook them and serve them to us with all the fixings. It sure is hard to beat fresh seafood!

Boy Overboard in Apalachicola Bay

A short time after we had installed the 20hp Mercury, I was fishing by myself in the CubCraft on Apalachicola Bay. It was wintertime and quite cold. I had on a heavy jacket, jeans and leather hunting boots, but no PFD (lifejacket). I had anchored the boat and was fishing out of sight of any other boats. For a time I sat on the bow on a boat cushion and, after being there for a while and not catching anything, I decided to move.

I pulled the anchor and went back and started the motor, leaving the cushion on the bow. As the boat planed off, the cushion blew up and I threw up both hands and caught it, and in doing so I turned loose the tiller and the boat made an immediate hard turn to port. In one millisecond, I was overboard in very cold water. I surfaced to find the boat idling and going in a slow circle to port. I watched it go around once and swam up and caught hold of the starboard side just past the bow deck.

I walked my hands down the side of the boat until I could reach the motor kill switch to kill it. Then I climbed in over the motor and restarted it. By now I was freezing. I had to run for several miles back across the bay to find where the *Boomerang* was anchored. Thank God the water heater worked. I took a long hot shower. I have never needed anyone to suggest I wear a PFD after this incident.

Flat Tire in the National Forest

The route from Albany down to Apalachicola was through the National Forest. In those days this was very desolate country (still is). The paved road at times was like a washboard and there were stretches where one could fire a rifle down the centerline and not hit a single vehicle, except there were no vehicles to hit. Daddy was in the habit of driving the Chrysler 100mph everywhere we went (I'm not exaggerating, the New Yorker had a 365 cubic inch, 340hp HEMI with a 25gal tank and it would stroll). In those days there was no RADAR, law enforcement had to get behind us to clock us.

Right in the middle of this very dark and desolate place, one particular Sunday night we were headed home pulling the CubCraft on a trailer. Jessie May, our maid, was with us. She said, "somethin' wrong with dat tralla, fiah commin' out hit." (I am not making fun of her black dialect, just telling the reader how is was). We pulled over. The tire had blown out long ago and we had run on the rim so long that the shredded remains of the tire had burned while the rim was sparking on the pavement. We had a spare tire, but no jack.

Just as we were studying our predicament, headlights appeared way off on the horizon. It took a while but an old pickup truck finally pulled up, pulled over and stopped. A huge bearded man, who turned out to be a Mennonite preacher wearing a large black hat, got out of the truck and asked what the trouble was. So Daddy explained.

The preacher had about ten big strong sons, all in sitting in the back of the truck. I guess that they were about 20, 19, 18, 17, 16, etc. years old. After I loosened the lug nuts, he said, "Come here boys, put your backs into it." The boys all backed up to the boat and lifted, boat, trailer and all, while I changed the tire. Soon we were off and running again. Someone sure was looking out for us that night and I don't think we ever pulled a trailer again without a small scissor jack.

Down the River

In the spring of 1966 I was 15 years old and decided that I wanted to run the CubCraft from our farm landing on the Flint River just south of Albany, Georgia, to Panama City, Florida. My best friend, Norman Jay McArthur (a great American), would go with me. Great preparations were made, the 20hp Mercury motor was tuned up at Albany Outboard and I talked at length with owner Ham Hambrick who had made the trip years before.

Norman Jay McArthur (a great American) River Pilot, 1966.

Daddy procured for me air photo map books of the Flint and Apalachicola rivers from the US Army Corps of Engineers in Mobile. Ham cautioned me over and over not to leave the main river in the area of the Dead Lakes in Florida. He said that we would never find our way out of there.

Fuel stops were planned at Blountstown, Florida, and at Apalachicola. A list of equipment was made up that included an axe, a Coleman stove, a Coleman lantern, two Army surplus jungle hammocks, two lawn chairs, an ice chest with our food, a 410 single shot shotgun and a 22 caliber pistol (guess we would be fodder for Dateline NBC with guns today)! The boat had three 6gal fuel tanks plus we carried a 2.5gal can of Amoco "White" Gas for the lantern and stove. We carried extra outboard oil, an anchor and line and our air photo maps.

We were leaving in May, thus school was not yet out and Jay and I were both eighth grade students at Merry Acres Junior High School. Daddy wrote a letter to the school principal and since this was an "educational trip" we were excused from classes for a week. This was an almost brand new school and my dad had been the architect. I don't know if that had any bearing on the approval of our excuses or not. My grandmother made us a tin of fried apple pies.

On Friday afternoon we launched the boat with the B-275 International farm tractor and were off. By the time we had made it to Newton, Georgia, (about 20 miles) that tin of fried apple pies was only a memory. The first night we camped on an island in Lake Seminole. The next morning at first light we were underway for the locks on the Woodruff Dam. Years later I learned that Daddy had called the lockmaster, thus he was expecting us. We locked through without another vessel and were now in Florida and on the Apalachicola River.

There was no marina located at Blountstown so we had to tie up the boat, climb the steep river banks and walk down the highway to a gas station lugging heavy steel 6gal tanks. The trip to the station wasn't too bad, the trip back with the full cans, WHEW! Jay was a year older and a lot stronger than I was. I was a skinny kid. It was probably a good thing that we had both gone out for football spring training that year as we were in pretty good shape.

The Apalachicola River was such a beautiful river with almost no development. About the only signs of civilization we passed were honeybee aviaries where hundreds of hives were stacked on wooden platforms in the wilderness.

When we arrived in Appalach late that afternoon, we tied up at Fred Sawyer's boat works and, after visiting with Mr. Fred for a few minutes, we walked downtown to a ship chandlery where I purchased a small plastic compass (the boat didn't have a compass). We then took on fuel at the Chevron dock and departed for St George's Island where we set up camp on the west side of the jetties and spent the night. Those familiar with the area wouldn't believe that back then the island was deserted and pristine as there was no bridge to the mainland.

The next day we did some fishing and broke camp and headed westbound on the ICW (Intracoastal Waterway). Late that afternoon we set up camp on an island in Lake Wimbaco and spent the night. With dusk out came enormous swarms of buzzing mosquitoes, causing us to retreat into our jungle hammocks for the night.

The next morning, after a large breakfast of eggs, bacon and toast cooked on the Coleman stove, we broke camp and headed for Panama City. Our intermediate destination was Ethridge Boat Company, which was a marina in St. Andrews owned and managed by a very colorful one-armed character named Max Ethridge. Max was also known to his yachtsman customers as "the one armed bandit." Max had lost his right hand in a hunting accident when he was a teenager.

While we were taking on fuel, a customer came in with a large boat. Max was working on a Penn fishing reel and had special vises set up so that he could work with only one hand. The customer was drunk, loud and boisterous and trying hard to impress his two sleazy girlfriends that he brought in on his yacht. He placed a $100 bill on Max's workbench and laughingly told Max that if he could pick that $100 bill up with his nub he could have it.

Max didn't even blink. There was an open 5gal pail of grease next to where he was working and before you could even think about it, he had stuck his nub in the grease, stuck the $100 bill with it and stabbed it into his pants pocket. The man just stood there with his mouth open. Max said, "thank you" and continued working on the Penn reel while the man wandered off down the dock with the girls.

When we arrived at Panama City that morning, our elapsed running time was 11 hours since departing the farm in Georgia. We took on fuel, got ice and a few groceries and headed for Shell Island. We set up camp about two miles east of the jetties in a clump of scrub pines. This would be our camp for the rest of the week. That evening about dusk we went back across the bay to the city marina in downtown Panama City and tied up the skiff. We walked up town and shot pool in a pool hall and then came back to the boat and ran across the bay.

We had brought along a red plastic 6v Ray-O-Vac lantern and had wrapped tin (aluminum) foil around a tree so we could easily find our camp in the dark. At the time, this was the best and brightest handheld light we could buy. Another night we went back across St. Andrews Bay into town and walked to a movie. We were big dogs!

Just after daybreak one morning we went through the St. Andrews Pass and into the Gulf. It was one of those bluebird days. The sky was clear blue, not a breath of wind was blowing and the Gulf was flat calm. Before we cleared the west jetties we saw it. A large Navy helicopter was floating in the water. Several men were in the water swimming it towards the beach while one man in the cockpit was bailing water like crazy with a helmet. I eased the skiff alongside and asked if we could help. The man in the cockpit said, "No thanks, just please don't make a wake we are afraid it will go down."' He stated that they had help on the way.

I asked him what went wrong and he said that he was not sure. He said that everything was fine and all of a sudden they just lost power and auto-rotated down into the water. A few minutes later a large grey all-wheel-drive Navy truck arrived on the beach with a winch. Someone swam a cable out and they put the gear down on the helo and winched it up on the beach. We spent the rest of the week fishing off the beach and in the bay exploring as far as West Bay past the Hathaway Bridge.

On Sunday afternoon, at the predetermined time, we met Daddy with the boat trailer at the Ethridge Boat Company ramp and hauled the boat out and departed for home. We had covered a lot of miles over the past nine days and the 20hp Mercury had run flawlessly. Almost as soon as we got back to Albany we started planning another trip.

Daddy and I loading the boat to return to Albany.

I worked all summer cutting grass and framing our new house, office and shop. By the end of the summer I had saved several hundred dollars working for $2.15 an hour, which was minimum wage. We went to Albany Outboard and traded with Ham for an electric start 35hp Mercury. I think that this motor cost about $650 plus the 20hp we traded in. Daddy went to his office just up the street on Oglethorpe Avenue and I stayed at Albany Outboard all day.

This time we would have wheel steering. Francis Harris located the small fiberglass console in the attic that had shipped with the CubCraft when they ordered it in. Holes were drilled in the sides of the boat just below the gunwales to mount pulleys and aircraft cables were run to the wheel thru the pulleys for steering. A control box was bolted to the rail. All of this was done with probably much more supervision than Francis wanted or needed.

Toward the end of August, 1966 we went down the river again using the same gear as before. This time the weather was much hotter and the river levels much lower, so much so that we had a lot of trouble navigating the stretch of river between Albany and Newton.

There is one place called Hell's Gate and another called Goat Island. The water was so low that there were lots of exposed rocks and in places we simply had to shut down the motor, tilt it out of the water, get out and drag the skiff over the rocks. I took great pains not to hit a rock or scratch (skin) my new motor.

Because of this ordeal, this trip took 14 hours running time, even with the larger motor. There were stretches of the Apalachicola River where we would stop the boat and could not discern any obvious current flow. On this trip, too, the motor ran flawlessly with the exception of the choke lever. The choke had a cast aluminum lever on the bottom front of the motor. The choke needed to be used only the first time the motor was started each day.

One morning, when I choked the motor, the lever broke off in my hand. Being somewhat mechanically inclined, I opened the cover and manually closed the butterfly on the carburetors until the motor started. Again, as before, on Sunday afternoon Daddy met us with the trailer and we loaded up and returned home.

That fall we started the tenth grade at Albany High School and on the first day back one of our teachers went around the room asking students what they did that summer. Jay and I looked at each other, we just couldn't think of anything that was noteworthy.

A Sailing Canoe Adventure

By Steve Salley

While visiting my sister Joanne in Bay Center, Washington, I had a rare opportunity to practice canoe sailing. Joanne and her husband Nick own and operate the Ekone Oyster Company in the tidal waters of Willapa Bay. Formed by a 20 mile barrier beach stretching north from the mouth of the Columbia River, the bay is famous for its oyster grounds. These are nourished by continuous rainfall runoff rich in nutrients flowing down in many streams from the ever rain soaked Willapa Hills.

Originally the hills were covered by one of the densest timber stands in the world. The great old trees were all logged off a hundred years ago, leaving giant stumps amid second and third growth. The streams and rivers continue to deliver unpolluted water and sediment into brackish sloughs fringing the bay. The Palix river in front of Joanne's house is one of these. It is a remote and unlikely setting for a sailing canoe adventure.

Trying any sort of small boat sailing on Willapa Bay is fraught with peril, namely mud and lots of it. Don't wear loose fitting boots and keep moving. Launching and landing are strictly limited by the tides. There is an 8' to 9' tide. Working the oyster beds is best on a minus low tide, but a canoe sailor prefers a nice plus high tide. The weather is rarely conducive as bands of rain squalls sweep across the flats and marshes and low dark grey clouds linger on the hills for days.

The day in question, September 18, had a terrible forecast. Yet, as midday and high tide approached the skies turned sunny and a gentle breeze touched the waters of the Palix and off beyond the 101 Highway bridge out into the bay. Our craft was a 16' fiberglass canoe of unknown manufacture. This vessel had been modified for sail at some time in the past by a Bay Center old timer. Painted white with a green stripe, it bore the name *Miss Joanne*.

The principle features were a 2'x1"x6" daggerboard in a little trunk, a forward thwart for a mast step and a stern mounted rudder with a bell crank maneuvered by a long aluminum push pull tube. The key element, the sail, seemed salvaged from an old sailfish. Our gear was a makeshift anchor fashioned from a diver's belt weight on 30' of cord with a float at the bitter end, two paddles and a bailer. We wore good life jackets. It is inadvisable to bring wallets, car keys, phones, expensive binoculars or the like on these sorts of expeditions. We made bold to bring the camera, a pocket knife and water bottle.

We launched with care to minimize the amount of mud brought on board and paddled smoothly out to the mouth of the slough where we tied off to one of the ubiquitous saplings that mark the intricate channels in the flats and prepared to set sail. With some untangling the mast was stepped and the little triangular sail hoisted. We cast off and began tacking down the Palix proper towards our nemesis, the 101 bridge.

Clearing the wind shadow from the tall trees on the east bank gave us a clean breeze to counter the last of the flood tide. Today the eddies that suck and swirl around the gigantic cylindrical concrete piers were still and we passed without fear of being pasted against one like a wet leaf. The river mouth lay before us with views far out across the bay to the northwest a backdrop of timber covered hills receded tier upon tier into the distance.

Our objective lay dead to windward, a small, dark trawler moored against the east bank. She had a ketch rig, layers of ice cladding forward and a graceful whaleback abaft the pilot house. This little ship is the *Hero*. She is a famous Antarctica research vessel constructed by the Harvey Gamage shipyard in South Bristol, Maine. She was specifically designed for service at the National Science Foundation's Palmer Station. The station is on the northern tip of Antarctica, 800 miles and more south of the last of South America. Built of wood to the most rigorous standards, *Hero* served there up through the 1980s. After various schemes of preservation she now lies mothballed and deteriorating along the Bay Center dike road just east of town.

Tacking down the channel was tricky as it was hard to judge where the mud flats lay. Several times we embedded the dagger board or worse, the spade rudder, in the rich black ooze and resorted to the paddles. About an hour of tacking brought the *Hero* close abroad on the port side.

The wind had brisked up as the tide turned. We came about for the bridge and began a Nantucket sleigh ride without the whale downwind. The sail, run out, blocked my view from the helm. My sister crouched forward to look out under the boom. Laughing as we raced along, she did not know that we were skittering on the edge of control about to broach or jibe at any moment. I fought the aluminum tiller bellcrank rudder setup, pushing the wrong way meant disaster.

In and instant we jibed and the sheet caught around the back of Joanne's life jacket. Reaching out to clear the sheet, I let go of the tiller rod, dropping it over the starboard gunwale. By great good luck we regained our equilibrium and I retrieved the rod just before it angled down to embed itself in the mud bottom.

We shot under the 101 bridge and into the sheltered water of the slough. By now the tide had dropped even with the top of the mud bank. We nosed into the slot in the marsh at the foot of the lawn. First a number of slogs were made over the mud to relieve the canoe of sail, mast, rudder, paddles and anchor. Then came the mud pull, heaving the canoe toward the lawn and sinking in knee deep with each exertion.

The mud pull.

Finally, rinsed off, reoriented and relaxed, Joanne and I congratulated ourselves for taking advantage of a rare sunny afternoon outing at high tide on the Palix River.

For more about the story of the *Hero* see Bill Spindler's website devoted to the ship and the station: www.Palmerstation.com.

The 10 bridge.

The *Hero*.

Adventures on the Erie Canal

By John Zohlen
Reprinted from the *Shallow Water Sailor*
(including the Villages of Wayne County, New York)

I have always been fascinated by river and canal transits. Although the navigation is generally not challenging, the scenery is beautiful and these bodies of water are so rich in history.

Mary and I have taken several river cruises on small (50-75 person) passenger boats; the St Lawrence River from Quebec to Kingston, the Seine River from Paris to the Normandy Beaches and back and last year the lower Danube River from Budapest to Romania. We are scheduled to transit the Rhine River from Amsterdam to Basel in December.

I have sailed on many of the 30 large rivers of the Chesapeake Bay watershed, transited the southern half of the Intercoastal Waterway, sailed on the Pee Dee River in South Carolina and Fox River in Wisconsin and twice went down the James River in Virginia, all in small sailboats. I have also transited the Cape Cod Canal, the western half of the Trent-Severn Waterway, the Champlain Canal, the southern half of the Intercoastal Waterway and the Dismal Swamp Canal. But I had never transited the grandaddy canal of them all, the Eric Canal.

I have a folder in my file cabinet labeled "Planned Cruises." Whenever I see an article about someone cruising on a body of water that seems interesting I put a piece of paper or chart into that folder. Over the years there have been several articles placed in that folder about the Erie Canal. Then I met Art Gregory this summer. Art is from Florida and was visiting family in the Annapolis area. He brought his Peep Hen with him, without mast, boom and sail. Art was going to continue north after his visit and spend two weeks transiting the western half of the Erie Canal. That was my motivation to try the same myself. After all, there is so much water and so little time.

After much studying and discussion with others who had transited some or all of the Erie, I determined to follow in Art's wake. He launched at Macedon, New York, and proceeded west to Lockport and then east past Macedon to Seneca Lake and back again. I was told by many that the western half of the canal was manmade but far prettier scenery wise and the small villages along the canal had great facilities and lots of hospitality.

I prepared our Bay Hen for the cruise by taking off the mast, boom and sail. The maximum bridge clearance on this part of the Erie is 15½'. There are many bridges that are lower and require opening to transit. Art recommended chafing gear for the mooring lines on the canal walls and a 120v AC extension cord for electric power. My Bay Hen does not have an electrical system. I was planning to bring my mobile phone and VHF radio for communicating with the lockmasters. Both devices would need recharging during the two week transit. I purchased ten days of food, all dry and canned goods (Ugh! Death by sodium!) I do not sail with ice. I checked the Weather Channel regularly and saw that daytime temperatures for the Rochester, New York, area would be in the 90s. The day I was driving north was predicted to reach 97º! I packed light clothes and a light sleeping bag. The Weather Channel was wrong which prompted a bad decision.

About three days before the planned departure day of September 5 I wrenched my back. I do not know what I did or how I did it but it was serious. Should I delay or postpone the cruise? Naw... I was in denial. I would go and the back would get better. It did NOT.

The drive from Annapolis to Macedon was eight hours. The scenery through Maryland, Pennsylvania and western New York was beautiful. We drove through low mountain ranges, along rivers and next to lakes. I kept thinking this would be a great route to drive in early October for the fall colors. Like Art, I had made arrangements with Mid-Lake Erie Macedon Landing to launch onto the canal and store my van and boat trailer there for two weeks. The fee was less than that charged by private marinas here in the Annapolis area to launch and recover a boat for ONE day!

I noticed about six "narrow boats" at the marina piers. These 40' long by 8' wide, steel hull, two stateroom boats are modeled after English canal boats or "narrow boats." The Mid-Lakes Erie Navigation Co leases them for canal cruising. I mentioned to one of the workers at the marina that Ken, Norm and I had leased a similar narrow boat in 2007 to transit the Champlain Canal. They asked if I remembered the name of the boat. It was the *Nichole Claudine*, the owner's daughter. They said the *NC* was in the maintenance shed. The owner in Waterford had gone out of business and Mid-Lakes had purchased the boat. We looked at her in the building. She was in poor shape. It looked like someone had scraped her down an entire lock wall. The good news was that she is made of ¼" steel plate, weighed 14 tons and Mid-Lakes was planning to restore her and put her back into service.

That night I slept on the hard at the marina. I froze! It was the coldest night I can remember in a long, long while. The night temperature was 42º. My back really tightened up. The next morning I found a WalMart a few miles away and bought a Coleman sleeping bag (good to 30º), a sweatshirt and sweat pants. I was warm the rest of the trip but the damage to my back had already been done.

I launched Friday morning and began motoring east. There is a 10mph speed limit on the canal. My speed was a comfortable 4 knots. There is no reason to hurry in canal cruising. One other boat (a Spirit 6.5 with mast down) transited east with me. We locked through #30 and #31 together. I moored on the canal wall at the Port of Palmyra. The night was cold (46º) but the new sleeping bag kept me warm.

The former mayor of Palmyra came down to the canal wall Saturday morning. I was the only boat there. We chatted for quite awhile about the history of the village and their upcoming "Canal Days Festival." All these small villages along the canal are trying very hard to encourage recreational boater visits and tourism in general. Palmyra has free 48 hour docking, free bathrooms with showers, free electric (note: A 30a male to 15a female connector is needed to plug in an extension cord), free water and sewage pump out for only $1. Many other villages along the canal have similar amenities.

I got underway late Saturday morning and continued heading east. I was the only eastbound vessel. Shortly after getting underway it began raining and would continue raining until late that night. I docked at the next village, Newark. The host at the visitor center on the waterfront helped me. I could find a comfortable position sitting in the cockpit but standing to lock through or dock was becoming a real problem. I must have looked pathetic in my wet yellow foul weather gear all hunched over. I asked if I could bring my thermos of hot soup into the visitor's center and eat lunch. I enjoyed the conversation, warm soup and dry seat for the next hour.

Then it was decision time, continue on to the next lock or terminate the cruise. In the end I decided to turn around and go back to Macedon. My back was a safety issue and it was evident that it was not going to heal itself soon. I could not spend the next two weeks safely transiting the canal and not be able to stand up. I returned to Palmyra and spent the night. A cold, hard rain fell all night. The following day I returned to Macedon. I hauled out in bright sunshine (must be Murphy's Law working here) with some help and spent the afternoon getting the boat and van ready to go home. The locals said the Empire Sports Bar nearby would be showing the Green Bay Packer/San Francisco 49ers football game. I went but unfortunately the wrong team won! Again I slept on the hard at the marina. The drive home Monday was uncomfortable. I think I was more disappointed about terminating the trip early than the physical discomfort. I have never done that before for that reason.

There were many lessons learned about this trip. One is to not believe the Weather Channel and to take clothing and sleeping gear for all possible weather conditions. Bring more fenders! I left a nice 12" basketball style fender at home that would have been useful. Locking through with one person on a small boat is not hard. I looped a line around the wall drop lines and used a shortened boat hook to control the boat's position while ascending or descending in the locks. Bring an adapter plug for electric hook up. Your mobile phone battery will last longer than the one in your VHF radio. I called the lockmasters on my iPhone.

I was not able to completely follow in Art's wake this year but I definitely plan to transit the western Erie Canal in 2014, probably in June. Until then the papers, articles and charts will have to go back into the "Planned Cruises" folder.

PS: The back problem did not heal itself. Eventually I could not stand, much less walk. I had back surgery on October 1 to repair a herniated disk. The surgery was successful. So this winter will be spent strengthening my back and planning cruises for 2014. The Eric Canal will definitely be at the top of that list.

Pelagic Pooping in the Gulf of Mexico

A Memoir by Captain Gnat

Back in the early '70s not all of the offshore draggers out of Aransas Pass, Texas, had working marine toilets. So just what do you do when there's no head? That's an important question. Illumination follows.

We went over the side. Back then navigation utilized a magnetic compass, radar, a paper graphing type depth recorder and loran "A". Loran "A"? Anyone who remembers that probably wonders whether going over the side was some kind of nautical variation on Hansel and Gretel's trail of bread crumbs idea. Sure, fishermen are widely regarded as being full of it but let's be reasonable. There are three men on a boat, sometimes just two.

And think about the distances. On the *Irish Sea* I made trips from "off Louisiana, off Texas and off Mexico" as far down as Veracruz. There was no 200 mile limit then. That's a distance of at least a thousand miles, maybe even 1500 miles. Not even a whole platoon of the plumpest, most persistent, most prolific, most professional pelagic poopers on the planet could possibly produce enough plop to provide a practical plot. So much for the trail of breadcrumbs idea.

I was greatly intimidated by the idea of hanging my arse over the side to do my business. It was pretty much taken for granted that if you wound up off the vessel while she was steaming or working you were done for. Most muscles tense and relax in various and sundry ways depending on what we're doing. The anal sphincter is tensed all the time except when we're doing our business. The world is a better place for it. Problem is, when you're perched there on the rail, hanging on for your life, just how do you let go? How do you hang on and let go? The fear of letting go is a subject about which a great deal has been written.

The fear of letting go of old habits, the fear of letting go of an old job and moving onto a new, the fear of letting go of unhappy relationships and so on. I never had those fears. I've kept my old habits. I was always the one getting fired. And relationships! As relationships matured the women in my life always got to the point of telling me they couldn't wait to see me again but just not alive. But the greatest fear in my life was trying to relax that one muscle. The fear of letting go as it were while hanging on for my life with many of the others. Mastering this was the greatest achievement of my entire life. It's a source of great pride to this day.

A couple of points of interest are in order. Many fishermen preferred wooden vessels. They were sometimes more lively yet more seakindly. They also had 8" wide caprails which provided better seating for the subject of this history. Steel boats have piperails welded atop the steel bulwarks. Not so luxurious!

One vessel comes to mind as the most singular exception in my experience and that was *X Professor* owned by an ex professor at Texas A&M. (Incidentally, Texas A&M put out the "hang book." This listed the known and reported reefs, wrecks, well heads and what not, stuff on the bottom that you wouldn't want to drag two 65' wide nets over). She had a black hull, white house, orange trim, built by Bender Shipbuilding, if memory serves, and a rolling pig. She had an ordinary household ceramic flush toilet aboard. Ceramic has no tensile strength. You really have to hang on when the sea gets going so you can see the danger there, but the greater problem had to do with the fact that vessels pitch, yaw, lurch, roll, etc at sea. So consider the fluid dynamics of that bowl full of value added water. Add to your consideration the fact that trout jump. Trouser trout are no exception. "Double, double toil and trouble, fire bum and cauldron bubble." Only the unusually well educated would consider putting such a thing on an ocean going fishing vessel.

There seems to be a rough correlation between class values, regional, ethnic and political background and personal hygiene. Class values had no effect in this case because we had none. But on the *Irish Sea* the captain used the starboard or right side of the vessel over near the rack for the doors. Incidentally, in Gloucester they call that rack the gallows, pronounced "galoose." Anyway, the captain was a Texan, so I suspect a Republican, so he was drawn to the right or starboard side. The rig man was a Mexican, so I suspect a Democrat, so he used the left or port side rail also near the rack. I am a Libertarian. I'd use the stern. Back there was an old net to put feet under and a steel ladder running up to the boom to hold onto. Of course, in regular national elections I'd always vote Libertarian but back there I'd be casting my ballot for a liberal Democrat.

You are no doubt quite anxious to learn about heavy weather pelagic pooping, but first some comments about heavy weather. We would fish in regular gales but not knowingly set gear in strong gales or storms. Most people think of spray as something coming out of a hose or showerhead. In real weather spray hits like half a barrelful of water moving at 40 or 50 knots. It's like being tackled. These vessels carried as much as 70 tons in fuel alone yet could move violently enough to throw someone out of a wheelhouse chair or send milk cases full of chain and shackles moving across the deck.

In the early stages of a gale or storm the sea is "confused," that is not quite into a regular rythmn. There were more "freaks" then, or seas that were considerably larger and hit harder than the rest and often out of sync with the rest. In Gloucester they say, "We got hit with a queer one." It's an Elizabethan word for "beside." They started fishing there in the 1630s so the idiom remains. Even just a full gale can produce 20 odd foot seas with considerably larger "freaks." So it can be violent and dangerous weather. Fortunately the *Irish Sea* had a very long raking bow which never buried so she took no green water over the bow.

The rails were the rule in fine to moderate weather but when things piped up they provided too precarious a perch for pelagic pooping. I'd take a 5gal bucket, put a little water in it and go down to the engine room. There was a single cylinder, hand crank, air cooled Lister diesel there that ran a pump. It's exhaust pipe ran straight up so provided a good solid hand hold. The idea was to sit on the bucket and so forth. Getting things out of the system was simple. Getting things out of the engine room and off of the vessel was another matter.

On the port after end of the engine room was a vertical steel ladder that rose to a doghouse behind the cabin. The top of the doghouse remained closed in bad weather so there was about a 3' high opening looking aft, The winches were behind the cabin and there was a pipe rail close behind them. The idea was to get oneself and the bucket out of the engine room and over to that pipe rail. From there I could hang on, watch what's coming and at an opportune moment move to the rail and dump things over the side.

I'd grab the bucket with the right hand and ascend holding the ladder with the left. At the top the deck and the seas beyond became visible. The bucket would get swung out onto the deck and held firmly in place. Low slung fast moving boiling black clouds ran past overhead. A driving jagged horizon thrust up and closed us in. The vastness of the sea and sky was gone, replaced by a fearsome small angry space. Walls of spray would come blasting over the wheelhouse. The deck would be awash from heavy spray sometimes accompanied by rain. The noise was beyond describing. Massive seas would strike, explode off the bow, drench the decks with spray and roll by with crests blowing off into spume, streaking the sea. The vessel would lurch violently just before the beyond bore the bucket, happily steaming, away right at eye level about a foot from my snout.

At what seemed like a safe moment I'd have to let go of the bucket and the ladder and leap for the winches grabbing the bucket on the way. Standing there, watching, waiting, the fear would set in. What if I let go and the bucket went hydroplaning over the deck and returned at great velocity and with terrible result? Knowing that I was responsible for creating the problem in the first place did nothing to make me want to accept the consequences or potential consequences. Human nature, I guess. There was fear, there was a desire to run and hide yet nowhere to go, nowhere to hide, no escape. When looking at a freshly prepared bucket at eye level in these conditions, knowing that it has to be let go of. Yes! The fear of letting go! I was scared, you know. Pelagic pooping has taught me to overcome the fear of letting go. It's the highest degree of self control and skill that I have ever achieved.

Age brings a tendency to reminisce. I think back to my younger years and going to sea. Things were so much simpler then. You know, in most ways I never amounted to much. No big titles, no fancy degrees, no social status, not very attractive and so forth, but I was really good at pelagic pooping. It's my greatest attainment. It's a funny thing, too, how people react when I discuss it on social occasions. Many people just stare at me. My wife calls me a colloquial name for the opening that's usually closed and tells me that I should just shut up. I try to explain that it's the only thing I've ever been good at. It's a source of pride. She says it's the only thing I've ever been good for. I know enough not to argue semantics with my wife.

Well, I hope to have enlightened readers regarding this important subject and I'm sure that we are all relieved to be here at the end.

John Gardner Chapter
TSCA News

By Phil Behney
www/tsca.net/johngardner

November 7

Our December 1 meeting is at the Custom House in New London and will be our annual potluck end of year gathering, a great time and great food at a beautiful venue!

The lighted boat parade in Mystic will be held November 30. Anyone who would like to row and or display using the club dories should start planning to be ready. We also have the Winter Solstice coming up on December 21, in the past we have done a short row on the Mystic River, so lets keep this in mind.

The *Nina* project is picking up steam again thanks to Bruce Cressar and some helpers. Bruce plans to bring the pieces for the centerboard trunk this Friday. Tim Weaver has been sketching the progress and plans to write up an article for the *Ash Breeze*, so let's get in there and get our hands dusty!

Josh Paterson and myself are still commuting to work using the dories, our departure point from Groton is very tenuous at this point and we are still looking for a new location to be able to continue through the winter. The commute has been fantastic with something new to see and experience every day, Tugboats, barges, container ships, submarines and the ever present ferry traffic. The latter has been a challenge to us to stay out of their way as they have a large maneuvering area right where we need to cross. Last Friday was so rough that I could only make it to City Pier in New London and had to tie up and walk the rest of the way to work.

November 15

Winter is fast approaching but we have a lot of events happening, the lighted boat parade is October 30 and Wil Iturino is planning to participate, hopefully we can get some of the dories manned also. Then our potluck December meeting will be held at the New London Custom house with possible guest speaker's from the "Sea Legs" program. Then December 21 we can do our traditional Winter Solstice row on the Mystic River.

We will be continuing with the *Nina* project this Friday evening so come on down and we can also chat about all the happenings, and let me know of your ideas so I can pass them along!

I have included some pictures of the river row to work that Josh and I have been doing.

November 22

I have moved a dory to the Avery Point beach and I rowed to work Thursday, this is about a half mile longer than from Sandy's place on the Groton Bank of Thames River, but less shipping traffic. The row took me about 50 minutes against a light breeze and outgoing tide. The boat is upside down behind the storage shed, oars are in the Bldg 36 Boathouse for anyone who wants to get out there. I will keep you up to date on the rowboat commute to work that Josh and I are doing.

Prescott Littlefield, who is waterfront programs manager at Avery Point, is willing to allow us to keep two dories in his sailing area as long as we don't interfere with their activities. Prescott told me about his waterfront activities and also that his grandfather knew John Gardner and owned and traveled far and wide with his John Gardner built dory. I asked Prescott if he would be willing to give our group a short talk about his grandfather's dory and he said he may be willing to do a presentation, so I will keep you all up to date when this may happen, perhaps with an overview of his waterfront programs. This may be another area where we can make our boats available for community outreach, which has been a topic of discussion this past year.

Another possible show and tell in the works, suggested by Bill Rutherford, is a talk by Rob Pittaway on Rob's design "Robin," a small camp cruiser featured in *WoodenBoat's Small Boats* issue in 2011.

I've included two photos of our row to work, one of a freighter moored at state pier New London and one of Josh on the destination beach with the two dories.

St Mary's Bay Chronicles No 12

The Billionaire's Cup

(and the Other One)

By Ernie Cassidy
New Edinburg, Nova Scotia
Kudos or brickbats may be sent to
upcloseconcerts@eastlink.ca

While it doesn't have much to do with St Mary's Bay, I'm moved to share a few words with you about the 2013 America's Cup races. I will not vex you with a long rant about One Percenters, Plutocrats or billionaires in general, though I could. I would ask you to ponder this however, how much is a billion dollars?

Let's say I came to like you a whole lot, decided to give you one dollar per second and keep giving you one dollar per second indefinitely. (Vast heaving on the email client, I could not do this, no matter how fond of you I became.) At that rate, you would be receiving a handsome $86,400 per day. You would be a millionaire in no more than 12 days and by the end of the first year you would have accumulated $31,536,000. At this rate, how long would it take for me to turn you into a billionaire? It would take another 31 years! May I repeat that? It would take 31 more years.

Need another way to visualize it? If, by your own cleverness and diligence, you became a millionaire, you would be, give or take a 64th or two, at 1/32nd of an inch on a yardstick. To become a billionaire, you would have to work your way up to inch 31. How much cleverness and diligence would that take? Could there be something else going on here?

I will not go off on a long tangent about people accumulating imaginary wealth by giving fancy names to worthless pieces of paper, selling them back and forth to other like minded people, raising the price each time to increase the perceived value, then dumping them off on more naïve investors as hot properties, though I could.

And, to give him his due, Larry Ellison created something, the relational database "Oracle." This, at least, is a real product that is of considerable use to a huge number of people. If he wants to spend a kazillion dollars to win a silver cup, I guess he's entitled.

I will not go on and on about whether the M-72 catamarans used in this year's cup competition are actually boats, though I could. Well, maybe I will, just a little. On dimensions of 72.2' length, 45.9' width (sorry, I cannot make myself call this "beam") and a weight of 13,007lbs (not actually "displacement" unless the thing is almost dead in the water), these machines have as much in common with my notions of what a boat is as my Ford Ranger has in common with a Formula One race car, or even the space shuttle.

Of course, the chief distinguishing feature of the M-72 is the hydrofoil technology that enables it to sail faster than the wind. Not as much faster as an ice boat (another non boat if there ever was one), but pretty darn fast and for much the same reason (minimal friction induced drag). Every time they climbed up out of the water and went skimming along on those impossibly delicate looking hydrofoils, I found myself asking how all that mass, plus the wind loading on the rigid sail, would not collapse those foils? What kind of material and engineering makes that possible?

Well, of course, it requires state of the art engineering, tons of carbon fiber, onboard computers, hydraulic servo motors, an 11-man crew and the equivalent of the gross national product of a dozen Third-World countries to build and campaign racing machines that are capable of this level of performance. To wit, the New Zealand entry put up the highest speed of the contest. It was measured "flying" along at 55mph! That was 2.2 times the measured wind speed.

Once up on the foils, an M-72 manufactures its own relative wind and will go faster and faster until the friction of the foils and the wind resistance of the structure finally overcome the power of the rigid wing sail to drag the mass along. This is, in equal measure, awe inspiring and horrifying. In fact, the British team lost a team member and pulled out of the competition when their M-72 got out of control, capsized and trapped the unlucky crew member under the wreck. That's about as horrifying as it gets.

In one of the races, a technical failure (not certain if it was human or mechanical), pulled up one of the foils at the wrong moment, dropped the lee hull into the water, which decelerated the American M-72 so violently that two crew men were catapulted into the air and hurled, unhurt, into San Francisco Bay. Amazingly, there was no damage to the M-72, which carried on all in a day's work fashion.

It's time to stop quibbling about whether these things are really boats, call them wind-powered, water borne racing machines if it makes you more comfortable (it makes me more comfortable).

All that said, I admit I took a look at one of the YouTube clips of one of the races, out of curiosity generated by the radio sportscasters, and I was hooked. This was one of those times where the technology of the broadcast industry gives us a view of the event that is completely unavailable to observers on the shore or even following along on the water, in real boats.

With cameras attached everywhere and crew members wired up with microphones, the broadcast coverage puts us in the middle of the action in a way that was impossible 20 years ago. If you've ever watched five minutes of a NASCAR auto race, you know what I mean.

With this kind of coverage, the human drama of the event really comes across. We hear it in the urgency of the commands, the cockiness, or anxiety, in the voices of the crew, the expressions on their faces. We hear the sounds of the machinery, the groaning of the structure. In the end, it was the human drama that really pulled me in. The crews on the M-72 cats are not billionaires. These guys are just working grunts, giving their all for country, team and a bit of personal glory.

Unlike during the "golden age of sail," these things are too uncomfortable, and dangerous, for the billionaires to ride on during the actual races. And the salt water is hard on the handmade Italian leather sandals.

I ended up going back to the beginning and watching the whole series of races. And even though the outcome was starting to look foreordained, I was able to catch the final race "live." It was the culmination of one of the most amazing comebacks in the history of sport, any sport. It would be hard to exaggerate the effort, dedication and ability to stay focused, in the face of what seemed like overwhelming odds, of the crew of Oracle-Team USA.

This may be a hard sell since everyone knows the final outcome, but if you didn't follow the series while it was happening, may I suggest that some crappy winter afternoon, when there's nothing better to do, you fire up the computer, go to YouTube, search for "America's Cup 2013" and watch the first two or three races. If it doesn't grab you, no harm done. If it does, I hope you started early on a Saturday morning, because you're going to have a hard time walking away from it.

Meanwhile, back on St Mary's Bay, we turn to the Dollar Store Cup. Shall we start with a question? Is it really a race if only one boat knows it's a race? Uhmm, well, you bet it is! I was called, last September, by Robert, who'd gotten my name from the Commodore. Robert had a 16' sailboat that he'd been keeping at his camp on one of our many inland lakes. He was hankerin' to try his hand at green water sailing but was a bit apprehensive about doing it on his own.

Having seen *Ellie-Xander* at the marina, he tracked me down and asked if he and his boat could join me the next time I went out. He said he was sure he could pick up a few pointers and, I suspect, probably liked the idea of having another boat close at hand if things went awry. It turned out that the next weekend worked for both of us and we set a time to meet at the wharf.

The whole idea appealed to me because it would give me a chance to compare my C&L's performance to that of a boat surprisingly similar in size, displacement, sail area, etc. I'm almost embarrassed to say that, days away from the beginning of my seventh decade on the planet, the old competitive urge was still there, lurking in the underbrush.

As often happens, I was a bit late getting away so Robert already had his boat rigged and launched when I arrived. In fact, he was put putting around the big wharf (Robert has a motor), planning to meet me inside so we could take off together. I had to admire

his spunk as it was breezing on some smart. Against the incoming tide the wind was putting up a choppy sea that looked as if it might make for some "busy" sailing. Robert wandered over to my float and we chatted a bit as I hanked on the mainsail, hung the rudder, stowed gear and victuals and made ready to cast off lines.

In my haste to get going, my journalistic sensibilities failed me. I should have jotted down some notes regarding the kind of boat, how long Robert had owned it, some of the more interesting construction features, etc. All I can tell you is that she had the same waterline length as my C&L, was round bottomed and, judging from the pretty bow wave she put up, has a finer and better shaped entry than you would expect on a small fiberglass daysailer. I'll say this, however, they were both unequivocally and unambiguously boats (sorry, just had to get that in).

I had noticed that he had crew aboard and had his jib rigged, too. Given the weight of wind and the choppy conditions and the fact that I would be sailing alone, I decided to proceed under mainsail alone. There were tea and cookies aboard, after all. Three sheets, the tiller and a mug of hot tea are more than I can manage solo in a breeze of wind and a lumpy sea.

Robert motored out the mouth of the harbor. I had to beat out through the dreaded "slot" between the big wharf and the breakwater. (If you're curious, you can see the slot via Google Earth in astonishing detail.) On this day it took about seven tacks to get free of the slot and out into the clean, sweet wind. Robert and his companion were getting acclimated to the combination of wind and chop by jilling around behind the big wharf.

As soon as we cleared the wharf, they headed off to windward and I began giving chase. To my delight, *Ellie-Xander* began to walk up Robert's wake. The delight was tempered by the fact that this was the first leg of Robert's first trip on the Bay and it was obvious that he was being cautious. And well he should. I have demonstrated, on more occasions than I like admitting, that an excess of caution will usually get me into less trouble than an insufficiency of it. I have the scars, and an oddly shaped collar bone, to prove it.

So, I was pleased, but not cocky, about our performance on the first leg of the, uhmm, race. Did I mention that I hadn't told Robert it was a race? Having reeled in about ten boat lengths on this first windward leg, though not quite having overtaken them, my delight was considerably more tempered when we tacked and started off down wind.

I'm not certain if it was the particular conditions, or if it had simply never mattered much before, but *Ellie-Xander* seemed to have become a bit crank about tacking. Maybe it was the chop, or the fact that we were lightly loaded, but we missed stays in the most lubberly fashion. I had to back 'er down to get the bow over to the proper angle to the wind. "La hontess," as the Acadians say. "How embarrassing." Once underway, having lost all we'd gained on the beat to windward, I had to watch Robert's transom get smaller and smaller as his boat charged off towards the big wharf.

When it was time to tack again, I was a good 15 boat lengths behind. I did a deliberately slow, wide tack, falling in about two boat lengths behind and we began the second windward leg. Once again, *Ellie-Xander* picked up her skirts and took off. Halfway to the other end of the, uhmm, course, we were dead even, boat to boat. After exchanging a few pleasantries, I hove down on the sheet, sailed through Robert's lee and pulled steadily away. After another dismal tack, we were only a couple of boat lengths ahead for the next downwind leg.

Looking back, it was easy to see one advantage Robert's boat had over the C&L, the fine entry and round bilges were cleaving their way through the choppy sea in elegant fashion. *Ellie-Xander*, with those broad flat areas between her two chines, was having to shoulder the waves out of her way and was pounding quite impressively. Unlike the pretty curling bow wave of Robert's boat, *Ellie-Xander* was splashing her bow wave out ahead of her. This was not at all helped by the lack of crew (aka moveable ballast), which put her more than optimally down by the stern and presented still more flat surface to the ranks of water walls she was having to punch through. It took little time for us to fall astern again and watch the gap steadily increase all the way back to the wharf. Harrrumph!

For the next windward leg I tacked when they tacked, putting me a few boat lengths ahead of them again. I deliberately held *Ellie-Xander* back, as I could see that Robert's crewman was over trimming the jib and backwinding their mainsail. When they caught up I suggested that if he eased the jib sheet a bit she might make better work of it to windward. They did that and, after a big eye moment when she dipped the rub rail into the water, they settled into the tack at a noticeably brisker pace.

This time it was all we could do to pull away. But, by putting on a grim face and strapping her down as hard as I dared, we had gained several boat lengths when it came time to tack around again. So I hove to, broke out the tea and cookies, then bore off just as they tacked around for another downwind run. Once again, they began to overhaul *Ellie-Xander*, but I had a lovely moment of satisfaction as they came abreast and had another big eye moment when they looked over and saw me perched on the side deck casually sipping my tea.

At the end of this run Robert decided he'd had enough and said he was heading back to the trailer. I did one more lap, the better to finish the tea and cookies, then brought her in. All in all, it was a fun afternoon. It would be illuminating to see how the boats would go with crew and jibs on both of them. I suspect that, on a relatively flat sea, *Ellie-Xander* would clean their clock, either to windward or on a run. As soon as a sea started to make up, I'm pretty sure the advantage would start shifting to the round bilged boat, at least any time we were bucking a steep chop.

I hope we get to do this again next year. And next time, maybe, I'll tell Robert it's a race.

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A Steam Canoe

By O.L. Bickford

Reprinted from Paddles Past
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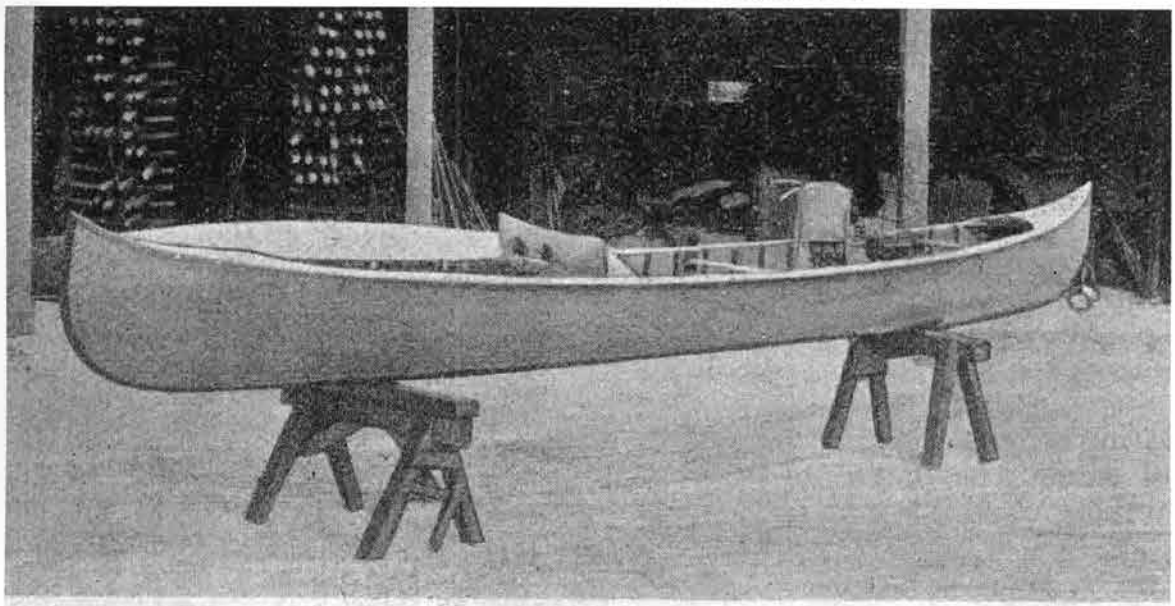


GENERAL VIEW OF MR. O. L. BICKFORD'S STEAM CANOE.

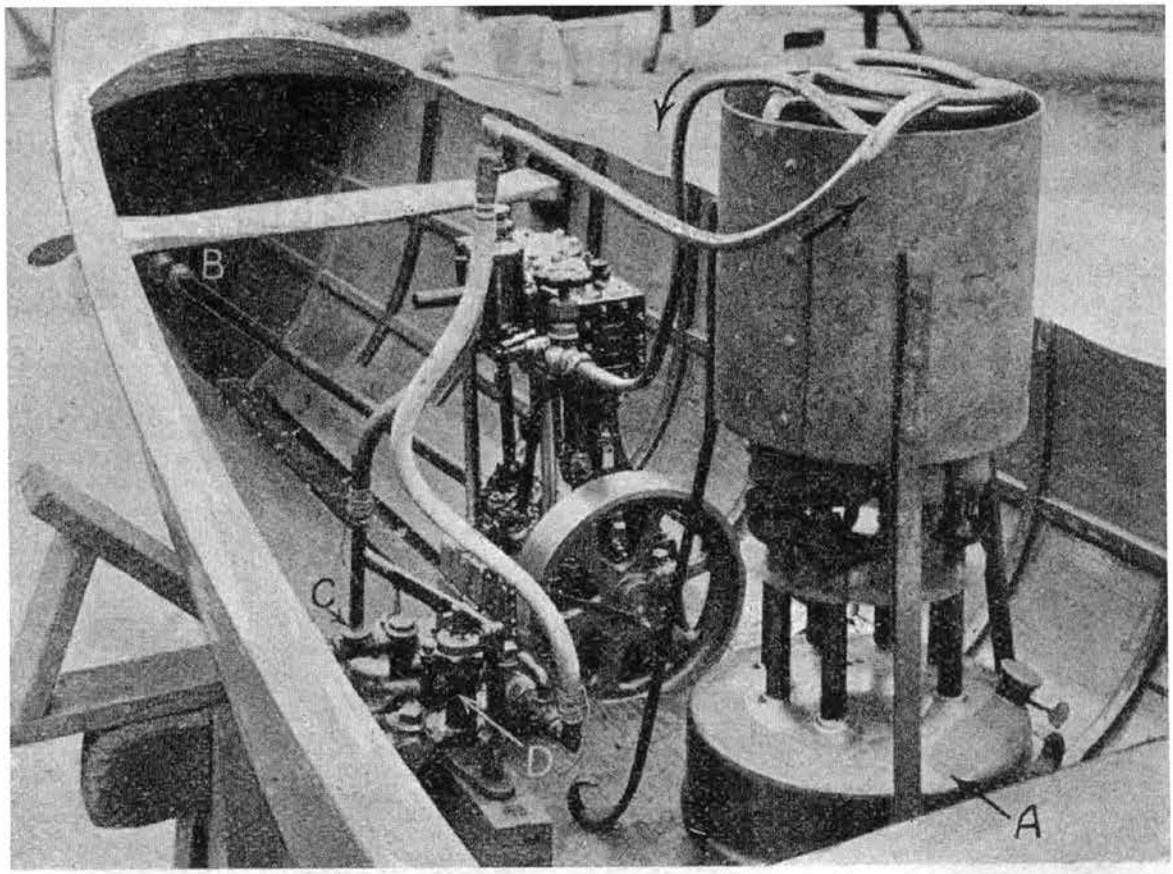
We are indebted to a correspondent, Mr. 0. L. Bickford, for the following interesting notes concerning his steam canoe. He tells us that he was prompted to send us these particulars as he had seen some correspondence on the subject of power-driven river skiffs in our recent issues, and he thought that perhaps his experiences might interest other readers. At first he had a boiler 14 ins, by 14 ins, specially made for the job, but this turned out altogether too heavy, weighing about 135 lbs., and was, of course, no use for his purpose. The canoe he bought, and also a No. 3 Stuart compound engine and an eight-burner intensive Primus stove. The usual fittings were employed, such as gauges, hand-pump, unions, etc., and the whole thing was connected up with motor pump tubing. The flash generator consists of 30 ft. of seamless steel tubing, at 3 pence. a foot. The boiler and Primus stove, complete, weighing only 25 lbs. It is possible to keep up 70 lbs. of steam with engine running at 500 to 600 rpm., driving a 7-in. three-bladed propeller, the speed attained being 5 miles per hour. A force-pump with

variable. throw, ¼-in, bore, keeps up the steam at about one-eighth throw, the pump running at the same speed as engine. There is also an auxiliary hand-pump fitted for starting, sudden spurts, etc.

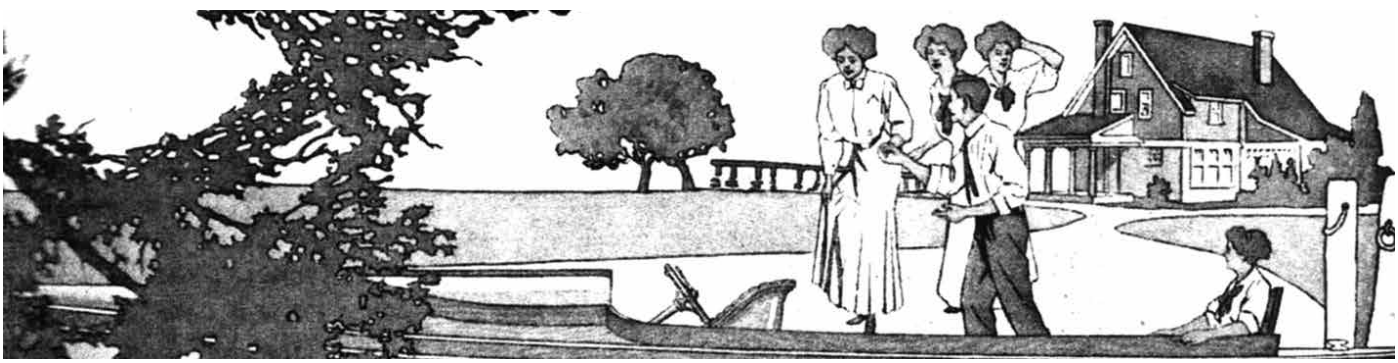
The canoe carries two passengers and an engineer, our correspondent taking these duties upon himself. If it may also be said, the same engineer frequently fills the position of quarter-master, and, with a paddle, occasionally back-paddles, so to speak, against the engine, to swing the canoe round almost right-angle corners on the River Cherwell.

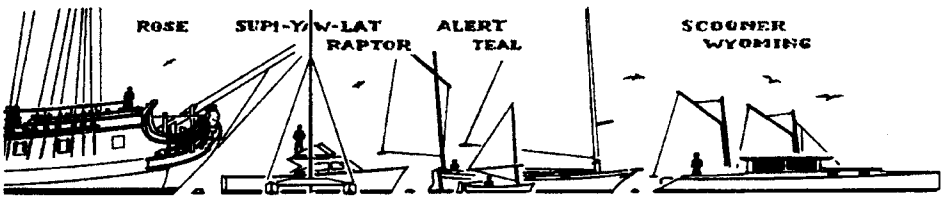
For next year Mr. Bickford intends to fit a 2-in. by 2-in. single-cylinder engine (as he finds it more powerful at equal steam pressures), together with a 14-in. locomobile steam car burner and a 10-in. two-bladed propeller. He recently tried the experiment of installing a 1.5 hp. motor bicycle petrol engine, 2-in, by 2½-in. stroke, air-cooled, but the vibration set up made the seams of the canoe leak, and the noise was worse than the roar of the Primus stove. Besides this, the Thames Conservancy would not pass the job, as it kept catching fire, and so, Mr. Bickford concludes: "Steam is, after all, the best for me."

The foregoing interesting notes should serve as a very useful guide to other readers at present thinking of making some attempt in the direction of actual marine engineering on a small scale We believe great possibilities lie in this direction, and the many advantages, both as regards facilities for working and managing such a craft, as well as others in the way of actual pleasure do not need to he emphasised to make them apparent. We shall most certainly look forward to hearingof Mr. Bickford's further results with as much interest as any of our readers.



VIEW OF ENGINE AND WATER-TUBE BOILER FOR STEAM CANOE.





PHIL BOLGER & FRIENDS, INC
BOAT DESIGNERS
PO BOX 1209
GLOUCESTER, MA 01930
FAX 978-282-1349

Phil Bolger & Friends on Design

"SACPAS-3" (LCP) Landing Craft Personnel

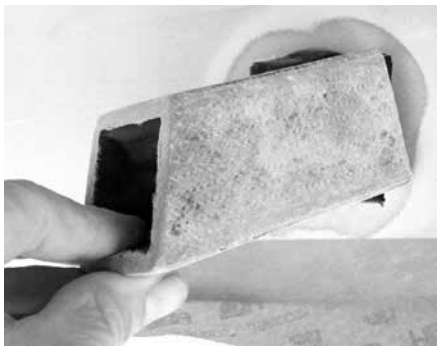
Design # 681
39'1"x7'5"x12"x225hp
17th in a Series of Articles

Yes, 17th installment! Last one was the 17th! And the one before, I think. During that last one I found myself veering a bit deep into certain unfortunate aspects of the project so far, which at the point of this writing have yet to be resolved. While that matter ferments, back to the much simpler world of building the boat itself.

In fact, I was not quite done yet with the discussion on using factory produced fiberglass angles and square tubes to hardening exposed edges on this plywood based boat, such as cockpit coamings and house edges, even do a roof gutter. After some fretting, good at that (!), I finally figured what I hope is a more reliable way to drain the outboard's slop well. Plain hole would work, particularly with some heavy epoxy slurry and some fiberglass and a fair bit of quite messy work that still has to look quite decent. But someone will then perhaps reeve a line through it, testing our handywork to destruction from chafe and strain, and chafe means no more paint, and that means exposed epoxy aging in the sun, cracks perhaps from a lot of pull on that rope, then rot in the transom.

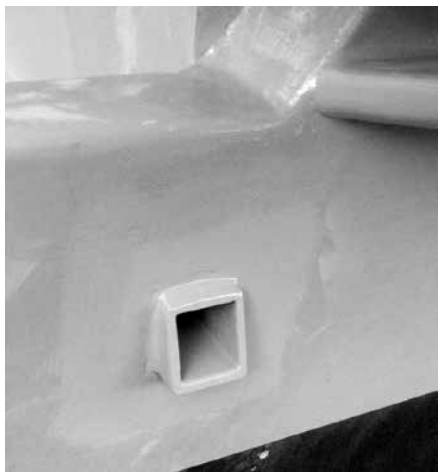
So instead of waking up drenched from this nightmare, driving a square tube into a round hole seemed preferable. First we drill a pilot hole through the 3"+ transom which then guides the hole saw about 55% into it, hopefully to match coming at it from the other side next. One way or the other we'll get that @*&! hole cut. And then on to matching wits with the other one.

In comes the mighty sawzall (?) perhaps to really let it rip. Better likely just a modest chisel and some careful taps with the mallet. As Picture #1 sort of shows I wound up with essentially an eight side round hole with four corners, good enough for government work. Then abrasion is called for inside and outside of that nice 1.5"x1.5" square tube piece to get rid of any mystery/factory coating and allow solid epoxy and paint bond. Abrasive I can do. That just before smoothing things up for the final perfect fit.

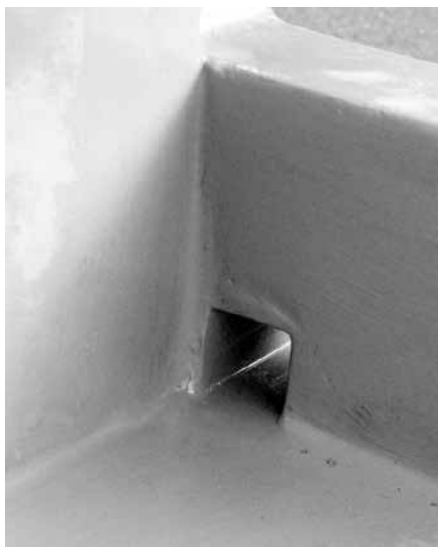


Picture #1

Between a good plain epoxy soaking of all the cross grain inside that transom and then some rich 406 colloidal silica slurry, the square tube slid right into that slightly oversized hole, was plumbed and trued to make sure both sides of the slop well would drain out of reasonably symmetric spouts, sharp lower edge included for a clean, no stain drip edge (Picture #2). Inside, less pretty but smooth bottom for reliable drain (Picture #3).



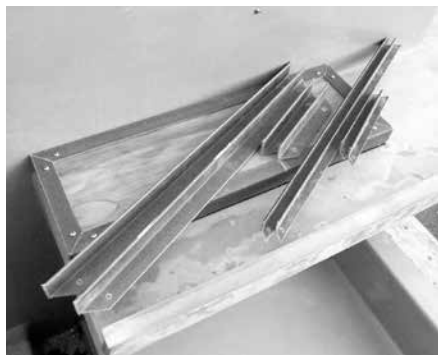
Picture #2



Picture #3

Hatches?! Can be, will be (!) high wear items between hatch edges and coamings. Eventually the obvious occurred and I cut a 1"x1"x1/8" square tube on the table saw (very fine toothed blade!) to finish 1" high and 3/4" wide as stock for the coaming (yes the kerf of the carbide tipped blade ate about 1/8"). Since the hatch would be a piece of scrap 1/2" ply with its upper side already glassed, and since I planned on a rubber foam compression gasket, the hatch frame stock was cut out of 1 1/2"x1 1/2"x1/8" square tube to finish 1 1/2"x 1 1/4" with the long end to become the vertical edge covering both ply and gasket.

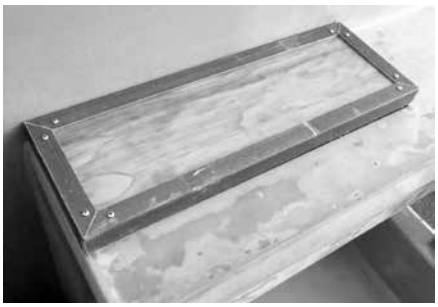
Then some sensible thinking on the miter saw to not cut the wrong 45º angles, i.e., outside cut for the coaming and inside cut for the hatch frame. If uncertain, a few ruined pieces will set us straight. Picture #4 shows all the pieces for one set of coaming and hatch frame, including the two sizes of square stock.



Picture #4

This time at least, no humiliating surprises when I dry fitted all pieces via two screws per piece to set up the coaming on the boat and assemble the hatch cover the workbench (Pictures #5 and #6). Shown here is only loose hatch with its frame oversized over the coaming to allow a bit more study of the geometry, here to integrate a hidden hinge. Elsewhere, on another boat perhaps, the hatch would be loose, only secured from below with a lanyard as Phil preferred on his ventilation/escape hatch on *Resolution*, with any of the four edges propped up to either blow wind in or draw stale air out. Whichever geometry, the next step would be the usual epoxy bonding process, with finally perhaps a 1/8" deep channel machined into the after/lower frame edge of the hatch to allow dew and rain to drain off the hatch top.

Picture #5

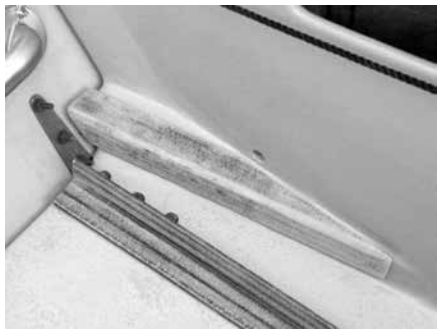


Picture #6

SACPAS-3's bow cockpit and bottom hinged beaching door/gate/flap offered another use, nor for a heavier duty angle. Since the chine log ties topsides and hull-bottom together, it runs all the way forward until exposed right at the hinge (Picture #7).

Picture #7

And there it would be stomped on a lot, stuff dragged over and sooner or later show signs of distress, and that would be highly undesirable. Here, beyond two layers of fiberglass cloth throughout that cockpit sole, I finally decided to add short but meaty sections of 2"x1/4" fiberglass angle. Picture #8 shows the basic stock angle left and the fitted piece over the chine log on the right. Whether bedded in epoxy slurry or 3M 5200, either way, those two edges may be the last thing to die on this boat.



Picture #8

Finally, while her rear cross beam was built and glassed on a workbench, there would be no plausible hope to get the perfectly smooth transition with her topsides, even if the winter cover had not blocked access to the joint. Once that was removed, the joint was accessible, minor mismatches were machined off, to then see some modest length 1 1/2" angle cutoffs bonded over it to reinforce both corner and cover the butt joint as in Picture #9. Well fitted to the coaming edging, again (!) epoxy slurry is our friend! The lower end gets trimmed later.

Picture #9

Yes, I machined a 1/8" deep recess into the back of that rubber rub rail for a smooth flush fit. And that rear cross section of the rub rail is complete with its pricey but good-looking corner pieces to wrap that softer hull protection all around her stern. After all, with the outboard retracted up and the floor of the 40' container greased up in way of her triple bottom skids, that rear crossbeam's rub rail would hit the far end of the box as she is shoved into it for storage for shipment to who knows where. There will be just a few inches of room at her rub rail across her bow gate to close the door on. Or so I think.

The Old and the New

By Stephen D. (Doc) Regan
Reprinted from *The Shallow Water Sailor*

Replicas of the *Nina* and *Pinta* docked at Dubuque, Iowa, and immediately drew many to the two supply ships for Christopher Columbus. Volunteer deck hands would answer any questions or direct inquiries to someone who had the appropriate responses, but no formal tour or explanations were provided. Nevertheless, anyone with sailing experience recognized parallels with today's shallow water boats.

As a historian I noted that square sails were still the primary transmission of movement for the ships, and fore and aft sails were, in 1492, recent western technology borrowed from the eastern cultures. Feluccas and junks possessing various forms of lengthwise sails had flourished in the western Mediterranean, but the distance and lack of knowledge transfer had not reached Europe until Henry the Navigator's minions promulgated adding sails counter to the square sail. Without this technology, Columbus could never have reached the Americas and returned.

What fascinated me was the fact that sailors of that period could build and sail any of our modern small craft, and we salty dogs of the shallow waters could fit quite nicely into the caravels of the 15th century. We probably would have been uncomfortable without individual cabins and fresh food that those sailors couldn't even dream about. Amenities aside, sailing is sailing.

The two caravels were nice examples of the contemporary sailing knowledge of the period. The short, stubby, but quite stout mast seemed a bit underwhelming but canvas was heavy and square sails were large. The rigging is obvious. Shrouds and stays were, and still are, holding the mast upright. The sails go up and the sails go down a lot like today. While we may not be experienced in square sails, it would not take long to figure out setting and reefing them.

Rudders are rudders and tillers are tillers, although it was interesting that the tiller is set low because the men used their thighs to steer while holding onto something solid with their arms. We all have done some sailing with our thighs while grabbing a beer, eating a sandwich or rummaging around for something but we don't do it constantly.

Spritsails and staysails are pretty much operated like the various configurations of jibs. Lines were pulled with pure manpower without the conveniences of winches. A windlass weighed heavy anchors.

Without a specific program or formal tour, many children and even adults wandered aboard, viewed the cramped spaces, gabbed about all the "ropes" and muttered about going to sea in such small ships. Boredom seemed the predominant mood. A herd of lower elementary age students stood with drooping eyes totally unimpressed with the entire field trip.

Being a former teacher and modest sailor, I immediately poked my nose into their business and commenced a mini lecture showing how the fore and aft sails were so significant to the voyage. Their eyes actually showed interest when I discussed the need for stays and shrouds and the tradition of placing gold or silver pieces under the mast step. They uniformly gagged when food of the era was discussed but were impressed by the size of the lines and need for strength among the crew. They were intrigued by the terminology such as port and starboard, snotter, lines, log line, windward and leeward, etc.

I think I would have crewed adequately on the *Nina* or *Pinta*. Likewise, those crews would have been pretty handy on my boat in the 21st century. This little visit helped remind me of the historical impact of sailing on our evolution politically, socially, economically and even religiously. It also reminded that education without meaning is simply wasted time. It was worth the trip to Dubuque.

Good Boat Finds

By Greg Grundtisch

I have recently, with the blessing of the lovely and talented and remarkably tolerant Naomi, acquired a couple more sailboats. They were such great deals. My father always said, "Good deals come along often, it's the great deals that you want to recognize and jump on."

The first boat I bought this time was so cheap I couldn't resist such a great deal. It came complete with a roadworthy trailer and all the sails, mast, rigging and the like. It had been sitting outdoors for quite a few years and collected several inches of decaying leaves and twigs. When cleaned up and rigged I found a very usable and not bad looking little 16' sailboat. It is an AFC-16, American Fiberglass Corporation. The year is uncertain as the nameplate with the hull number is missing. The sails and rigging for this boat are in extremely good condition, and the hull and deck are solid with only some cleaning and paint required.

I found this diamond in the rough on craigslist. A man had it resting next to his cottage on Cross Lake, in central New York state. He and the kids hadn't used it in years so it was time for the little sloop to go.

Well, then there were some practical boat acquisition discussions. Yes! Naomi says, "We certainly do not need any more boats, and by the way, what are you planning to do with them all? Haven't we talked about how many boats you can actually own and use? I thought we were trying to thin out the fleet, and where are you going to keep them all?"

Do not worry yourself with such minor details, my dear. I have it all under careful consideration and a plan is currently being developed to answer all your concerns, the details of which will be forthcoming, rest easy.

The other "great deal" is a little project boat and trailer. The trailer the little 12' boat sits on is what I really wanted. It is in very good condition and has been kept indoors most of its life. I wanted the trailer for the Peapod I recently finished this past spring. It can also be used for other boats in the fleet. The boat itself is a little questionable as to what the future may hold for it.

The boat is somewhat of a mystery. There are no hull numbers or manufacturer's plate on it. I can't figure out the year or make or manufacturer. It looks like someone found a hull and placed a deck from some other type of boat on it. There is a small mast step on hull under the deck but no opening for a mast on the deck itself. This boat came with a mast and boom that seem too big for the boat's size, and a rudder and centerboard of aluminum. It also came with a set of used sails for a Lightning.

The sails are more interesting than the boat. They were made by Ratsey and Lapthorn on City Island, New York. This is a British sail loft, started in 1796, and they started a company in New York in 1902. More on that to come later.

Anyway, if anyone has any information about this little boat I would appreciate hearing from you. I would love to know how this boat got put together, along with mismatched sails, spars, deck and such. Email: grundy@fantasiadesign.com

If you're interested in vintage FMC boats there is an owners association and data in regard to the manufacturer on the web. Just Google the name. Some owners have done some interesting upgrades and conversions and YouTube has a cute video of an 11 year old kid describing his boat and what he has done with it.

There is also information on the web for Ratsey and Lapthorn. It describes the history and some photos of the loft in the Bronx.

The Bucket List
Part 13

By Dan Rogers

Digging Deeper

I think it's a little like digging a hole with a hand shovel. No. Wait. It's exactly like digging a hole! You know how when you get a ways down in the ground, about waist deep maybe, and need to make your hole still deeper, you have to basically FILL THE HOLE BACK UP. That's exactly what it looks like to the innocent bystander, anyway. You have to dig away from the sides of the hole. But if you keep digging more dirt away from the sides of the hole and piling it up in the middle, after a while it's hard to remember what the original mission was about. Time to clean out the hole. And so, there I seem to be, awash with boat projects that have minds of their own. And, I ask you, is there any other kind of boat project?

A really smart guy once said to me, "If you find yourself in a hole, stop digging!" A not quite as smart guy answered him (that would be me), "That's great advice. How come most all of the great advice around is gained AFTER IT COULD BE OF ANY USE?" And so it goes.

Unlike how The Lucas would portray our climate here in the Frozen Tundra of Almost Canada, there is only so much winter to go around. There's a lot of work to do before I can be launching boats again and only just a few months available for that.

One of my favorite movie lines, turned aphorism, goes like this, "The latest from the Roman Coliseum, Lions 3, Christians 0." Thus we embark on a basically metaphysical question, is a worthy effort "good enough?" Or, as another smart guy told me once, "If we don't fly by night we don't fly at all." So there you have it.

And I'll bet you know somebody like that. I can't be the only closet schitz out there when it comes to being swayed by a lovely forefoot, let alone a sweet sheer. Certainly the fellow who decides upon the ideal boat, purchases plans and materials, sets up and follows the directions and then launches his creation has much to offer. It must be really nice to be that well ordered. It must be nice to be rich and talented and beautiful, too.

So first an admission. Yes, I do have too many boats. There, I said it. And no, I don't feel any better for it. Besides, I already knew that. I knew that long BEFORE I ended up with the latest, "But it followed me home, can't I keep it?" project. I was just gonna take the engine out of this old hulk, put it into another member of the fleet that has been waiting for a heart transplant and send the carcass off to the landfill. Sure I was.

So, how did that morph into a quarter-ton of Detroit iron hanging on an engine stand awaiting a ring job and another half ton of fiberglass sitting on the building cart with piles of discarded chunks of rotted plywood stacked up for a dump run? How did the boat(s) which had moved to the top of the winter projects list find themselves back on their trailers and back in storage without any new holes drilled, fiberglass applied or paint sloshed around? Now you're sure you know somebody like that.

Well, that's pretty simple. A nice forefoot. How can you euthanize a boat with a pretty bow? Besides, that engine is just too heavy and long and tall for the "original" purpose. But it served the boat it was born with apparently quite well for the past half century. Soooooooo.

All the rubble is out. There's a new engine mount/bilge pan and floor in place, made out of ¾" MDO plywood stuck down with PL Premium and screws. All the crappy and crinkled padded vinyl stuff is pulled and peeled and scraped off the hull. There's a temporary coat of latex paint over the hull sides. The rusty gas tank is still occupying the bow but there's always something waiting for inspiration.

The old floor was pretty crumbly and sagging. The ¼" thick steel angle iron will augment the new plywood substrate under that really heavy Chevy six. Today's job is to figure a way to both prop up the sagging side decks and create mounting points for hull ceiling strips. No, of course not, the manufacturer did not "do" ceilings, but I find that a boat beco`mes instantly "shippy" with the application of ceilings.

This is what a prior patient looked like while on the operating table. The ceiling strips are ripped out of a pile of spruce 2"x4"s (for the cabin) and cedar 2"x4"s (for the cockpit), shaped on the router table and "planed" with an orbital sander. The overhead is more of the cedar stuff. The cabin was built in place, and by eye out of plain old ACX. Then the outside got covered with both tigerwood strips and a spruce overlay that got its yellowish tint from colored shellac. Somehow the inside has been on hold for about two years now and that floor overlay is a home brew combo of bamboo and spruce held together with TBII.

So I still don't know if the current patient will leave the OR with a look and mission similar to the one she has had for 45 years. Like I was saying, it would be nice to be well ordered, but certainly not quite as interesting. We could end up with a decked over (and very "impractical") runabout resembling the ones the rich folks had way back when. OR we could even end up with that Hankinson derivative workboat profile that keeps me awake nights. Or something else altogether. First, gotta go and get the side decks propped up. A girl's gotta look her best even when she's not really "dressed." Know what I mean?

A rather fetching forefoot stopped the Sawzall and started the here we go again process.

How Many is TOO MANY?

There's this construct bandied about in current discussion of geo political and behavioral economic trends called the "tipping point." It's that moment when everything changes, often for the worse. Really smart people seem bent on trying to predict this or that tipping point, except the only real good way to see a tipping point coming is to look back after the dust settles. Yeah, déjà vu. Often, as our favorite Yankees catcher immortalized it, "déjà vu, all over again."

And in the world of small boats, a tipping point can have all sorts of unforeseen consequences if you would rather stay dry. Anyhow, I seem to have become a member of a rather select group, people who admit to already having too many boats, one of those unforeseen consequences of continuing to build and collect them. A tipping point sort of like the worldwide fixation with Imelda Marcos for her endless collection of shoes. The popular rejoinder at the time was, "but she only has two feet to wear 'em on." Yeah, but this isn't about shoes, this is about something much more important. This is about an art form, a veritable way of life. This is about, well, a shared obsession. It's OK. You're among friends here. Go ahead, I'll tell you my story and you can tell me yours.

Anyhow, I've been "trying to quit." Well no, quitting isn't an option but maybe "cutting down" would be a good idea. Except for those pesky unintended consequences like, for instance, which boat, or dare I say it, BOATS, should go? In the interest of appearing to be behaving rationally, I told Kate I was going over to the RV storage shed where the bulk of the fleet is moored for the winter and see about thinning things down a bit. Of course, I greet each one with something like, "Hi there, little girl. How you doin'?" All the rest of you guys do that, too. You do, don't you? And then I prattle on about how I'm going to get to that gouge in the port quarter, or that deck leak up forward, for sure, this year. About how she is "almost next" on the maintenance list. Mostly, I'm trying to convince myself. The boats already know the truth.

The truth is, that I have another "new" one in the shop. This one is in for a total overhaul, resulting in an essentially new boat. Everybody else has been slid back a notch or two. The new interloper is certainly going to take up all my time, energy, money and Motrin supply for the next several months.

So after wandering around at storage for a while, fingering a brightwork scratch here, a trailer wiring problem over there, after circling around and imagining life without this one, or that one, of my floating creations, I gave up and came home. Of course, Kate asked me what I was going to do about "all those boats." I said, "I'm working on it" and scuttled back out to the shop.

The Light at the End of the Tunnel

(It's not only a train, but a train that has turned around!)

I weighed the simplicity of putting this boat back together more or less like the original. Then, with some prodding from here and there, I concluded that something with a pilot house and Bruce anchor up forward, towing bitts back by the engine box and a diesel fireplace would probably get more use. So *Roughneck* is going through the birthing process. Sort of like with some of the rest of us, this one wasn't planned. I guess there's three or four man days into the project so far (tear out/replacement). She'll get about six weeks of the building season, hopefully be ready to go back on a trailer and then make room for some of her sisters in the shop. There's only so much winter to go around.

Just about everything that doesn't add to the workboat format has been removed.

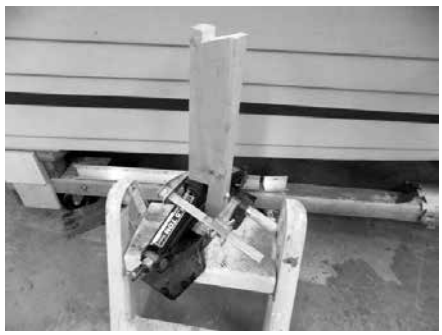
Wires, cables, hoses, a 20gal gas tank and several seasons' worth of wasp nests are now gone from under the foredeck. Over the next couple of `weeks things will begin to sprout above that conveniently flat sheerline. I'm still trying to decide if the steering wheel and gauge panel will stay put for the first sea trials. There will be a round house/trunk cabin just forward of the old windshield line that will add vertical space over the foot of a berth and access to the forward hatch and anchor windlass. All just in my head at the moment.

That ¼"x3" steel angle will stiffen the forward motor mount's underpinnings. I hope.

The floor is replaced and the motor well bilge pan is just about ready to receive that really heavy Chevy Six. But I'll probably wait until all that climbing around during the building phase is done.

After several hours of messing with different angles and heights for the coachroof, I simply decided to go build it and hang it up over the boat until it "looks about right." Too much science seems to be excessive on this job.

I bounced between several window sizes. I finally decided that 24" is a convenient number when building a 6' long pilothouse. This is the "planning board."



This little invention is what it took to bring the side decks back up to more or less level while stiffening and propping them up. They will have to hold a heavy cabin top.

The set of four deck beams, with several more to make after I figure out what they're supposed to look like. Cut out of ¾" MDO and shaped with a saber saw and belt sander. I discovered again that the pine pattern that I carefully crafted with a thoroughly deliberated fair curve is not only easy to shape, the router laminate trimmer bit's bushing eats it up quickly, too. I later remembered that the last time I did something like this I used Masonite for the pattern.

So much for the best laid plans, all I want for Christmas is a panel saw.

My 7' outfeed table just barely accommodated the clamped down "strongback" to position the cabin beams.

I said that I needed help to hold the panels up while I squirted the goop. Kate said, "Get a stick." Good idea.

Waiting for the PL to do its stuff. Shaping and varnishing come next, then I've got to figure a way to levitate it across the shop and up into the air to fit supports, shear panels and all that stuff. This will yield about 30sf under a 6' headroom. Should be big enough for the basics and there will still be an adequate cockpit surrounding that humungous in line six banger. I have no idea where the fuel tank(s) are going to hide. That will take one or more in the water tests to figure out. The whole metacentric heights thing for this hull has been tossed out the window. My normal method of determining stuff like that is by a home brew calculus I call Intuitive Extrapolation. But this same basic hull design used to also support a fiberglass cuddy cabin and hard awning over the helm station. My workboat cabin ought to be OK.

A Bazillion Other Things

I got home this evening, and the glue was set up, more or less. I really wanted to get the top levitated across to where the boat is. There is a whole caboodle of stuff to do to this little piece of the overall puzzle like shaping the bottoms of the beams and paneling the underside and making foundations for the arch topped windows that will grace the supports and a bazillion other things. Can't be burning daylight on this project. I couldn't get any help just then. So I asked myself, how heavy can it really be?

The answer, which should have been obvious, REAL DAMN HEAVY. And it still must go up another 20" or so to get things fitted to hold it in place. Tomorrow I'll rig the engine hoist like I should have done before balancing the huge thing on my back and assembling the cobbled together rack it's balanced on now. But we almost…

I don't suppose they built the pyramids this way. I read someplace that those guys had a union. Better luck tomorrow.

The Cavalry Arrives

After an overnight of head scratching and personal misgivings, the biggest single piece of a soon to be pilothouse took about two hours to get hoisted into position. The supports will take some doing and jostling but this next step shouldn't take all that much time (FLW?). It certainly would have been easier to carve it out of foam and glass it over, surfboard style. I just didn't think I could get a constant camber over that big a surface, that way. Oh well, maybe next time.

This is as far as I could get it single-handed. Somehow this top had to climb another 2' in altitude and then stay put while I create "walls" under it.

Hooray! The cavalry has arrived. It's amazing what an extra pair of hands is worth when there is a big, heavy thing swinging over your head and it needs to be convinced to sit still within 1/8" of "just right." An extra pair of hands that is more than willing to pick stuff up and hold it in the air, too. This cavalry troop showed up at the buttcrack of dawn on a Sunday, no less. Thanks, Jim!

Yep, that's duct tape and a 4"x6" timber making the engine hoist long enough to find the middle of the coach roof panel when it's 8' feet off the floor. The bolts actually carried the load. DT is good, but not that good.

This contraption is beginning to resemble concrete forms for a freeway overpass someplace. Time to start with the boat parts.

Both Bosun (the attack poodle) and I (both wearing matching gray shirts) should be able to stand up under this gonna be lid. OK, break's over, gotta go get some sawdust flying.

Err-So

All of my measurements seem to be in that universal standard, the Err-So, especially when it comes to time spent on the current boat project. I think it's been about a week Err-So. I've got to admit there are many better ways to do things like, for example, taking months to plan and years to build. Now there's an interesting concept.

I'll admit to being a touch peckish about this tiger that has me firmly by the tail. It's not like just about everybody hasn't tried to warn me. Kim Apel, the architectural genius and fellow naviculus morbiddus sufferer, told me straight out. He said, "Beware the rule of squares." Sort of like that mournful voice insistently attempting to warn Caesar, "…beware the Ides of March…" He told me that everything would be twice as big, heavy, expensive, awkward and just plain HARDER. Like Julius before me, I should have paid more attention to the seer. Instead, I said "sure" and thought, "Yeahbutttt. I'm only growing from a 14' hull to a 17' hull and I've already done this about twice before. Shouldn't be such a big deal." And yes, *Shenanigan*, the designed and built by eye ersatz tug went together in a couple three weeks. And heck, this time, all I was gonna do was pretty much the same stuff, only different. You probably know somebody like that.

If I was still working for the government, I'd be getting paid to put verbal spin on stuff like this, but since becoming a full fledged civilian I've developed the odd habit of frankness. And like Mark Twain said, it does save you a lot of memory work. So the unvarnished truth is that *Roughneck* is going to take a lot longer than I expected. I brashly estimated it at six weeks from tear out to trailer. Maybe more like six months? But I think that sort of thing happens to Real Boat Builders, too. Doesn't it?

I've got a framed in pilot house, an almost complete coachroof and trunk cabin pretty much in place on top of a replaced sole and engine mount/bilge pan. I've mocked up the exterior shell and done some experimental "lines in space" to lay out where deck edges and curves need to land. I've even stood behind the wheel and made imaginary motor sounds when nobody was around. This boat is gonna get built. Sometime.

This is what things looked like about a week ago.

And this is where we are right now.

The top. A couple days ago.

Earlier this morning.

Vrrroooommmmmm… And just about EVERYTHING yet to do, like cut that dashboard out and make a real helm station, for example. And yes, this girl will have curves where a girl oughta have curves. It's just gonna take a little longer than I expected, that's all.

A Real Designer and
A Real Boat Builder

I have always thought that boat designers are at just about the top of the food chain. I'm just amazed that anybody can visualize a curved, tapered, bent and shaped piece of wood, maybe the size of a car hood or something like that, and then represent it with a drawing. That in and of itself is pretty remarkable, but these guys and gals manage to visualize and draw whole collections of these sorts of pieces, and then they magically clump together and it becomes a boat. Sure, somebody has to do the cutting and shaping and bending and the like, too. But between 'em that pretty much sums up the top of the food chain for this kid.

Me? Can't draw and I can't seem to follow directions either. Just ask SWMBO, she'll probably have more to say on that than I'm prepared to admit to. Anyhow, I've been attempting to both do the designing and the building on a home brew sort of tugboat, sort of traditional work boat, sort of. Call it a mongrel maybe. But for me anyway, the various pieces spring directly from imagination to in place without a whole lot of formality. and when I'm putting up fence posts or cutting firewood that's more or less OK. In the case of this particular boat project, things got a bit fiddley today.

Oh, to have a Real Designer, and a Real Boat Builder in the shop would have saved me a lot of trouble. Heck, I would have plied them with coffee and sea stories. But boat builders and boat designers are in the hen's teeth category around where I live these days. So I've been on my own. The dog won't even come out to the shop on days like today.

I think this was day eight or maybe even nine on this project and, remarkably, what is propped up on the building cart is starting to look a whole lot like what I visualized a week or so ago. It sort of makes me giggle when I think about how I had fretted and stewed about getting a three panel windshield support structure, a trunk cabin's sides and decks to the proper camber and slope and even getting a strengthening series of gussets into the coachroof/support beam interface. Just about everything just sort of went together.

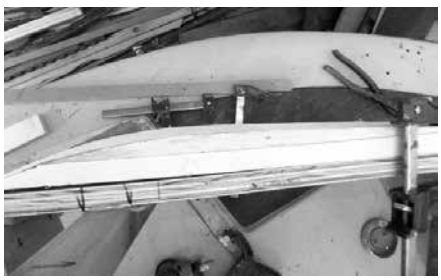
The cabin sides slope in at a pretty constant 3º. This was arrived at with the standard compromise method used in flea market bargaining. I was going to use 5º as that number was pretty easy to remember, but when I laid it out with scrap lumber on the floor, the cabin seemed to get pretty narrow pretty fast. Now, about half of that would seem about right. But if you are going to try to cut a whole schlock of corners and ends and other joints with .5º accuracy, you'd probably go use somebody else's tools besides mine, that is. Know what I mean?

So, with a great deal of deliberation, I used 3º as a sort of standard. Of course, with a twisted, sagged and otherwise deformed 45 year old hull, it's an even question where to put the protractor. I decided to use the floor as "level." I think it used to slope down toward the stern. With all this weight I've added all over the place, it's now anybody's guess which way the floor is going to slope. And what's more, it doesn't even seem to be in the same plane over much of the run either

fore and aft or athwartships. But since I "scientifically" stood on that floor and propped a mocked up roof up high enough until I could walk under it without removing my ball cap, the floor became DATUM.

I could brag and carry on about how I carefully fitted everything in today. But truth be told, most of the fitting was done free hand on the band saw and finished off with a #30 grit disc in my angle grinder. I can think in isometric projection, even if I can't draw it.

Here's what she looks like tonight. A couple of these panels are only propped up for the camera and will most likely not even be what goes on tomorrow. The below the waist line area is just a membrane and gluing surface that will get hand cut and shaped cedar staves. Maybe day after tomorrow.



Before the cabin sides went on I had to create "falsies" to give the trunk cabin sides a slope and curve that looks more or less OK. Yes, I almost gave in to the temptation to leave the trunk with flat sides. Next challenge is to come up with a cambered top that melds with the sides.

A way bigger challenge was to settle on what the windshield should look like. What resulted was a three piece concoction that slopes back at 6º (from the floor plane) and the outboard panels slope in parallel to the forward corners of the cabin when I put my belly button on the forward most protuberance of the bow. See? I told you I envy people who really know how this stuff is supposed to be done.

Anyhow, I think the windshield panels that I expect to build with arched tops and hardwood rail and stile frames will go nicely with this frame. It also has to accommodate a forward hatch. This hatch will probably resemble a sailboat's drop board cabin entrance scheme. Not usual for an at the bow location, but hey, I can't quite think of everything before it's too late.

And, then, the night shift went out and made the last of today's fiddley bits, a whole bunch of matching gussets. As soon as Sam, the engineering genius, comes home from visiting his grandkids in Arizona, I'll get him out here to help me decide just how thin the transverse beams can be. Then I'll cut some sort of matching arcs into the bottom surfaces. Should make things look a whole lot more nautical and somebody taller than I am just might want to walk under 'em. Movin' on, fiddley bit by fiddley bit.

Remove from Heat, Stir Occasionally, Let Cool

A day or two short of two weeks ago I pulled this heavy as a baby elephant Chevy six out of a down at the heels 45 year old runabout hull. I replaced the floor and motor mount/bilge sump with ¾" MDO plywood. This project neither had a budget, nor a place on the punch list. All I was gonna do, at first, was to repurpose the engine and outdrive for *Old Salt,* the 1959 vintage Glasspar Seafair cuddy cabin boat that was brought back from the dead a couple years ago. *Old Salt* has not been lucky with engines and the thought of putting this simple four stroke Detroit iron in her belly had me all excited. Then I did some research on just how heavy and big that upright, inline monster really is, 600lbs HEAVY. And 6' long, too! Rational people would have sent the whole thing to where things like that normally go. While I do consider myself more or less rational, I cannot claim to be normal. Soooooooo.

This is what has resulted from a half-dozen or more trips to the local lumber yard and about 12 very intense days and nights. No, I 'm not even close to done, but here's the deal. If I was Sisyphus' personal trainer, I'd be in there with him getting a real good run at pushing that boulder up the hill. I figure, if I can get a really good start on a project, maybe I can get finished before I realize just how tired I am. Something like that.

The astute observer will, of course, note that only the starboard side is even close to put together. But, for instance, those cedar staves glued to the cabin sides. There's a bazillion of 'em. I cut 'em all out of standard 2"x6" lumberyard cedar lumber. They had to be sanded smooth. They had to be bullnosed on the router table. They all had to be cut at the correct angles and trimmed a half kerf at a time. Then each one had to be glued on and… Well, anyway, there's a whole lot of walking back and forth and doing repetitive stuff with sharp things real close to fingers and that doesn't count all the substructure that needed to be in place first, to hang the gingerbread on.

I think *Roughneck* looks better in person than in the lousy camera angles that I can use at the moment. There's so much equipment and shelving and stuff in the way, I can't really get a flattering angle. I even tried standing on several gallon paint cans stacked next to the paint shelves, and holding the camera waaaaayyy back over my head.

Since I had only a vague idea what the results were supposed to look like last Sunday when I started turning perfectly good plywood into noise, dust and 2" wide strips, I give myself a passing mark for getting the structure to stand on its own.

Two days ago, things looked a bit more skeletal than they do now.

Once again, the acute observer will note that duct tape and spring clamps are not considered adequate attachment methods for a seagoing vessel and I hasten to agree. But I already admitted that I can't draw a decent rendering of the mental image so this is the method of choice for figuring out how things should go together. I wonder if Noah had spring clamps. He certainly had to have duct tape. Heck, I'll bet there was even duct tape in King Tut's seabag.

Then, about a day ago, things started to take shape, sort of. Fortunately not this particular shape. Some Really Cool Ideas should never see the light of day and I suppose this is one of them. I wonder if this is really why the Etch-A-Sketch was invented.

The metacentric height/weight and moment guys will have a conniption if they ever see how much structure I crammed above the deck line. Well, the thought of this cabin wracking and swaying in a seaway just didn't set well. And besides, all the Dinty Moore cans will be stowed down low, on center line, kind of like how Lord Hornblower required all his brass monkeys to be stowed with their balls down low. You do know about brass monkeys, don't you?

As late as last night, I was still thinking that I'd blank in the aft window that I spent most of a day framing in, the day before. And check out the nifty use of duct tape to draw in the waistline.

But this morning I asked the boat. She said, "Two windows are OK, three are better." So three it is, but, by lunch time this is about all I had to show for all the dust and noise, walking from tool to tool and moaning when it didn't fit.

And then, the swingshift crew came on and things picked up a bit.

But the boss wasn't quite satisfied so things got going ever quicker. The window frames are sort of mocked up with "real" parts. I may just glue 'em in tomorrow. Or change it. I'll ask the boat.

The leading edge of the visor actually has more shape than this camera angle would offer. And the remaining foredeck is still 3" long even after I planted a 16" high trunk cabin on it. And, of course, the rest of the original foredeck will be excised in the next few days. Not tonight, it's Sunday. I knocked the night crew off early, at 2200. I was feeling generous, told 'em to take the rest of the day off and have a good time. On me.

A Problem with Oversight

I have a problem with oversight. I can't see myself doing it over. It wasn't until I went to cut out the dropboard notch in the forward bulkhead in the trunk cabin (that I fashioned out over *Roughneck's* foredeck) that I noticed something wasn't right. OK, many folks have had that to say about this entire project.

But to be specific, while the corners appear to be where they should be, the middle isn't. Apparently I marked things out and then put half of the frames on the inside of the mark and half on the "other inside." Of

course, the pencil lines are all under a ton of glue, cedar staves and plywood now. Nothing for it but to do some creative stuff with trim. I wonder what Real Boat Builders do?

Actually, things are coming together in a welter of activity. The port side of the cabin is just about completely festooned with fiddeley bits.

Then, in a fit of getterdoneitis, I clambered in and put Sawzall to fiberglass and removed the once dashboard and most of the once foredeck. There's room to swing two cats in there now.

A current spate of whatif's concerns whether to "simply" hang a modest sized outboard on the rump and keep all/most of this volume for people and stuff or put the monster six back where it spent the prior 45 years. I'll let that one fester for a few more days before "letting the boat decide."

I'm still trying to figure out how to reach stuff along the side decks from inside the pilot house, like breast cleats, spring lines, fenders and such. Most likely some or most of these arch top windows will need to open in some manner. But that's part of this thing I call "discovery learning." Some would probably call it something a bit more pejorative. Anyhow, this is how things look at the fuzzy end of Day 13 or 14. Er-So.

An Epilog, of Sorts

(I say "of sorts," as this is still an incomplete story)

"Nice work Dan, Those angled strips are very appealing, they really add to the look and feel of the house. That has to be a tremendous amount of labor cutting and shaping all those to fit and then attaching. You are to be commended on your drive and perseverance and ingenuity!!! Where do you find the time? You must be retired, retired master carpenter."

Thanks, Tom. Yes, I'm retired. I guess the time comes from not watching TV, drinking beer or taking smoke breaks. Mostly a Sysphus like tenacity (obsessions), although most folks would also define that as insanity (doing the same thing over and over again, hoping for different results). Lately I conclude that I'm either in a race with the orthopod or the undertaker. Or both. Kate says, "But you have all winter…" And I respond, "No, if I don't get this one more or less set in concrete, I'll just come up with a new set of ideas and never get anything done." As far as carpentry, I'm just a self taught hack who insists on doing things differently.

Those strips were an eleventh hour attempt to soften the boxiness necessary in getting standing headroom and enough length to offer space for all the "cruising amenities." I needed to keep the quarters low to climb in and out, although aesthetically a sloped coaming would have done the trick much better. Same old problem of trying to cram a 26-footer into a 17' hull. But I can swing a cat in the putative pilot house and yes, this is possibly the boat that I get to go back to Desperation Sound in. That's sort of the daydream at the moment.

This is the jumboized version of the small tuglet and small shanty barge that I tried last year. I concluded that they, while offering most of the capabilities I was seeking, on paper, were just too small for my aging frame. Standing up under a roof next to a cabin heater and watching the rain fall outside becomes a mission essential feature after a long career of standing in an open sailboat cockpit with that steady drip from topping lift to shirt collar. Hence the third set of windows. It looks a lot better proportionally with a "landau" top/formal roof line" as the car ads used to tout. But things were getting a bit cavelike inside. So it goes.

As far as master carpentry, I'm still agog at your (Tom's) precision with the seven sided hexagon. I want to do something similar with the corner posts outboard of the three pane windshield. Only a mental image is available at the moment. Only the staves have to not only bevel, they have to taper. I'm going to need to defer to folks who did better than a "D" in geometry class. And it just may come down to carving something with the angle grinder and attempting to duplicate it in mirror image for the other side. That should create a lot of dust and noise anyway. It's pretty much a conical shape with elliptically concave ends. Or something technically sounding like that. I'll have to create the deck cambers and slopes under those corners first, I suppose.

And naturally the visor will need to be reshaped to emulate the curves of the corner posts and trunk cabin below as well. No rest for the hyper imaginative, it would appear. OK, I'll leave that as "easily distracted." But it's time to get to some of them honey do's that have languished under Sysyphus' rock slide.

Hold Up Here Dan!

Dan, hold up for a minute, time out, slow down and consider the golden rule of building a boat that you've said yourself, to the effect of, "The problem with building a boat is that when you're finished you've got another boat." So I'll remind you one more time before you do any more building, think, "is this absolutely the best regardless of time or money and are the guys going to look at it and think, wow, that's pretty cool."

If you weren't so far away in Iceland or wherever it is you are I'd give you a new acquisition we just got, a slightly broken new John Deere lawn tractor with a 17hp Kawasaki powering the wheels through a hydraulic drive system. Imagine the possibilities, a twin paddle wheel boat with each wheel individuality controlled and the engine placed whereever you want it or hydraulics running a prop or two. Now that's what I'm talking about. Make us proud.

Dave Lucas, The TikiHut

No Problemo Shipmate

The Almost Canada Skunkworks has been working secretly on a rig up that should steal some of the sweetstuff from both your *Helen Marie* and Steve's *Chelsea*. But this po' kid from the sticks has to do with what he can find out 'hind the chicken coop. My own snow -movin' Craftsman tractor has been blowing smoke and coughing up more phlegm than in past winters. But every time I cast a covetous glance at his tranny and drive sprockets, he straightens right up and gets back to work.

I did a swap of a two stroke Johnnyrude for an eight horse Briggs via UPS and craigslist last year. But that Briggs is just too small for this job. Now, a 17hp riceburner WOULD be a thing of beauty. How much micro brew would something like that cost me?

As far as stopping the presses, you wouldn't ask old Art Fiedler once he got those Pops-sicles playing, to stop and reconsider his choices in sheet music, would you? Y'alls will be proud. Even if you can't tell anybody…

Dan

Wood Will Always Be Available

By Boyd Mefferd

By the late 1980s I had been learning about mahogany runabouts for almost ten years and friends suggested that I write a book. That seemed like a lot of work with relatively little return, but I did enjoy writing letters to the editors of *Classic Boating*, then a fairly new magazine, to point out errors in their articles. I had the advantage of working with actual boats when some of their authors relied mainly on what little source material was available. The editors said that if I knew so dammed much, why didn't I write for them?

I realized that rather than being the one pointing out the mistakes, I'd be the one making them, but I gave it a try and wrote a series of articles about the process of buying a runabout and restoring it. I tried to predict the future, which boats to buy and which to avoid. Already by then some motor parts were becoming scarce, but in a good American way I assumed that as long as we had the almighty dollar, people from other countries would be happy to chop down their majestic mahogany trees to provide us with lumber. Confidently I wrote that "wood will always be available."

It took 25 years to really show up this faulty assumption but recently getting the correct lumber for a restoration has become problematic at best, and sometimes nearly impossible. Chris Craft used Philippine mahogany in all but their largest and most expensive models, but World War II interrupted that flow and forced more use of cedar for bottoms and painted sides, and even Spanish cedar, a mahogany lookalike.

A few boats were planked in the more expensive Honduras or genuine mahogany because it was the only wood available. As the Philippines recovered from the war and the Japanese occupation, logging began again and soon there was a good supply coming to the Chris Craft factory in Algonac, Michigan.

Then around 2000, good Philippine mahogany was the first boat building wood to be in short supply. Despite what Home Depot shoppers may think, not every stick of wood has a little bar code stapled to it and illegal logging in the national forests of the Philippines became a major problem. Crews with portable bandsaw mills would cut and stack, and then under cover of darkness trucks brought in containers and once they reached the port there was no way to distinguish between legally and illegally cut timber. It obviously all looked the same.

The Philippine government responded by placing an embargo on all rough cut lumber for export. Milled or finished products, which presumably required more sophisticated machinery, were still approved for export, and fortunately this included the S4S (sanded four sides) dimensional lumber that went up to 1"x12" and 1½"x12". Longer thicker and wider boards weren't available. Restorers like me tried to buy ahead as much as we could afford.

Apparently this broke up the crews of lumber thieves who must have had to look for other work and eventually the embargo was relaxed. Then around January, 2012, I went for a few hundred board feet of Philippine and saw that my supplier, Condon Lumber in New York state, had a whole building full. It had been embargoed again, temporarily, and Condon said that he had purchased everything he could find. When his current supply was sold he didn't know when there would be more. Aside from being the truth, that's a great sales pitch and I went home with much more than I had planned.

Buying ahead is a great luxury, but money tied up in lumber is money that can't go to grab that great buy on a boat that is sometimes available, so I try to not have too much in inventory. I've always been haunted by the chances I've had and not taken advantage of. Boats that were home runs tend to blend together over the years, but opportunities missed are just as sharp as the day I lost them to someone else.

I remember going to Condon's some years ago and seeing that they had several bundles of 4" thick Philippine stock that is called 16 quarter and is seldom seen in long, wide boards. The Chris Craft barrel sterns from the late '30s and early '40s use this as covering boards to produce the extreme rounding between the deck and sides. In the past we had to substitute the more expensive Honduras because the thick Philippine simply was not available.

We didn't have a barrel stern in the pipeline at that time and I assumed that the stock would be around for a while because it seemed like a low demand item. The next time I went to Condon's it was all gone, sold to a builder who cut it up for benches and railings on a huge McMansion deck. Talking with my friend and colleague, Jim Murdock of Bristol, Connecticut, he saw it, too, and unfortunately made the same assumption.

I've never seen 16 quarter wide and long Philippine again. I don't understand the whys and wherefores of lumber. It isn't something that you can order up. If the dimensions and quality you need are available on a given day you are fortunate. If not, you are sent scrambling and looking far and wide. "Plan B" is not an option.

While most Chris Crafts are planked with Philippine, the top of the line boats were Honduras, which now seldom comes from Honduras and is more accurately known as simply SA for South American. It's the same old growth, rainforest species that has been prized since the 18th century when the Philadelphia furniture makers, mentioned in hushed tones on the Antiques Roadshow, imported it on sailing ships.

It's the same lumber that has driven the cutting of the forests and destruction of so many species of animal and plant life. I don't know if using it with guilt is better than using it with abandon, but ultimately it amounts to the same thing.

We restored a 1937 27' Chris Craft Triple Cockpit, their top of the line, with the raised motor compartment with rounded, radiused coamings, known as the "roll deck triples," made in just 25' and 27'. The two coamings are the most prominent boards on the boat and come from six quarter (1½") by at least 10", exactly 21' long. I called Condon to see if he had any Honduras like this. He said that he didn't know. There were some long ones out there and I was free to bring my tape measure and go the 70 or so miles to find out.

As it turned out, there were just two, 21x2", a little cracked at the ends, and 14" wide, both beautiful and obviously cut from the same log. I had to explain to our customer that we had to pay the surcharge for 14" wide even though we were cutting them down to 10", and that we were extremely lucky to get 21' long at all.

Now in 2013 we needed a small amount of Honduras to do a repair on a small Chris Craft that was built just after WW I. So back to Condon's and on my way I always pass another lumber retailer and sometimes I stop in to see what he has. He said that he had stopped handling Honduras several years ago as the price shot up, availability became miserable and the quality dropped.

Lumber is graded and often grading seems more like an art than a science. Not all artists are equal and grading varies widely. Good lumber is FAS, for First American Standard, and there are specifications for the degree that pinholes, small knots etc, are tolerated. Above FAS is "Pattern Grade" used extensively for the wood patterns that were carved out for making industrial parts.

Now back at Condon's he said that there was "a little" Honduras out there where previously there had been half a building full. I remember going once to see boards l6" wide and 25' to 26' long. There are increasing surcharges in price for increments of both width (over 8") and length (over 12') so I could imagine what these boards were selling for. I admired them and left and they were all gone the next time I checked.

My recent visit revealed nothing so spectacular. There were three small bundles, neatly cut off at 10'. Normally the lengths are random and if you dig deep enough there will be a few long boards. Not so anymore. Maybe this is controlled by shipping now. Hugh Ware would know, but alas. Fortunately we could make do with ten, so I picked by width.

A few were wide enough to make the 8-1/2" we needed. When I got them back to the shop and ran them through the planer (wood was purchased rough) they were less than spectacular, but adequate, with some knots we could avoid with careful layout. All this at just a mere $12 per board foot. Such a deal !

I realized that if we were ever fortunate enough to find another 27' Chris Triple (57 made in that style in all the years 1932-39) we would probably never find wood to restore her. So much for "always available." My friend Jim Murdock has a Gar Wood and a 1930s Hacker Craft that were both held up for lack of suitable wood.

Then this summer a lumber salesman found him a bundle of random length Honduras with some long boards to 18', 3,000 board feet or so, buy all or nothing. I doubt he paid quite $12 a foot, but nobody is giving the stuff away and the math is impressive. He went to the bank and thanked his lucky stars.

People who create new technology or work with what is current have a different set of problems and job threats, but finding adequate materials to do their job is not one of them. When I wrote about the future in the late 1980s I didn't really understand the power of change and how nobody or no trade seems to be completely immune to it. We'll do the best with what we can get until we can't get it anymore, and maybe by then all the good boats will be found and already restored.

NEWS FROM THE BEETLE BOAT SHOP

It has been a milestone year for the Beetle Shop for a number of reasons. We completed and launched the first Beetle Whaleboat built by the shop in over 75 years. On August 26th, the Beetle crew was called upon to row and sail the boat on its maiden voyage in New Bedford Harbor. Eugene Monteiro representing the New Bedford Whaling Museum took the helm, as he was the assigned Skipper for the museum in their Annual Whaleboat Regatta. Mark Williams, Jonathan Richards, Marc Blandin, Manny Palomo and myself lead the charge rowing the boat off the dock. Tim Mahoney and his son Will graciously provided a chase boat, with Bill and Florence Sauerbrey capturing images of the historical day.

Beetle Crew Rowing, Photo by Florence Sauerbrey

First Sail on the Beetle Whaleboat
Photo by Bill Sauerbrey

The wind was forecast to pick-up from the 10 to 15 knots it was already blowing to 20 to 25 knots, so we quickly rowed across the bay to a more protected dock at the Community Boating Center. Once there, two people raised the tabernacle mast, Will Mahoney joined us on the whaleboat, and we were off sailing. With essentially the same beam as a Beetle Cat, but 28' long, the boat was obviously not as stable, and took a couple of tacks to get the timing and weight distribution down. About the time we were feeling comfortable, the winds picked up and it was time to head back to the mooring. A very memorable and satisfying day!

On October 3rd of this year, the Beetle Cat hit the 10-year anniversary of Charlie York passing the torch to Bill Womack as the fourth caretaker in its 93 year history. On that day 10 years ago, all of our lives were destined to change. No one (other than Bill Womack) could have dreamed that we would: move the shop, quadruple our Beetle Cat storage, build a custom 28' Hanley Catboat and 26' Herreshoff Alerion, introduce the Beetle 14, rebuild a 32' Noank Schooner, and launch a new Beetle Whaleboat. We are truly blessed by the support of the Beetle Cat community and could not have done it without you!

Beetle Shop - New Whirligig and Bill's roses
(after 10 years of his nurturing)

Beetle Cats in Storage - Photo by Bill Sauerbrey

We will be having our 10th Annual Open House on Saturday, December 7th from 1 - 6pm. We hope you can share some time with us as we look back over the last 10 years, and once again dream of what the future might hold.

- Michelle Buoniconto

A Lot Easier with Many Hands

By Richard Homan

On an early November Saturday my brother Steve, along with Joe Wallace and my dog Lucky, lent me a hand in applying a coating of fiberglass and epoxy resin to the exterior of my 16' Melonseed boat building project. This coating of fiberglass cloth and epoxy resin will strengthen the hull, provide some abrasion resistance and waterproof the hull. When completed, everything will be painted, no brightwork or varnished wood work.

This was my first use of RAKA epoxy. I am a long time (25+ years) user of WEST System Epoxy. RAKA had come recommended by fellow boat builder Dave Lucas. It costs considerably less and seemed to be working well.

These photos are of the final sanding and cleaning, along with wetting out and squeegeeing of the epoxy into the fiberglass cloth, a lot easier task with many hands. Not much in the way of smell or vapors, although we did have the bulkhead open and an exhaust fan running.

SNIPE JUNIOR

A 20 IN. RACING MODEL

DESIGNED ESPECIALLY FOR

THE

RUDDER

BY WILLIAM F. CROSBY

Reprinted from *The Model Yacht*
Newsletter of the
U.S. Vintage Model Yacht Group
www.usmyg.org

Editor's Foreword

William F. Crosby was the editor of *The Rudder* magazine and designer of the celebrated Snipe class of one design racing boats. In this 1932 article he gives detailed, step-by-step instructions for building and sailing a 20" LOA model of his most famous creation. We include Crosby's instructions (minus the dangerous advice about casting lead) for historical interest. The basic construction of carved bottom and sheet sides can be duplicated easily today with any soft wood for the bottom and model aircraft plywood for the sides. The original lead in the keel can be replaced with slabs of brass or well painted steel. This is a perfect class project for elementary students or as a "Grandparent's Boat."

The popularity of the original Snipe design, and the fact that hundreds of these little sailboats have been built and sailed, has led to the development of this practical sailing model. The original Snipe was not a model but a Marconi rigged knockabout 15'6" long adapted to one design racing. Snipe Junior is practically the same type hull modified to meet the needs of a good sailing model and so simplified that almost any boy or girl can make it successfully and for little or no money at all.

The original Snipe was equipped with a centerboard but practical experience has shown that a centerboard will not work successfully on a model of this type and so a fin keel with suitable lead weight has been added instead. The rig is somewhat higher than on Snipe and other minor changes have been made in the shape of the hull to make it a better sailing model.

The type of boat is known as vee bottom because, instead of having the usual rounded shape, the hull has a distinct knuckle that starts at the bow and runs clear through to the stern. This is called the chine and gives us a boat that is straight sided from the chine to the edge of the deck and from the chine down to the keel. If you will look at the sections of the model or of Snipe you will see that the bottom has a distinct vee to it and is therefore called a vee bottom.

The drawings explain practically everything necessary for the construction of this little model, which will be 20" long when you have it finished. Follow each operation by number, taking each one up in turn. and before long you will have some very definite results.

The mast and sail are of the most modern type and we would not advise changing them. The most important thing is to have a good suit of sails made of balloon silk or some similar light, strong material. When in place, these sails should fit just as perfectly as you can get them. Wrinkles are not tolerated in a racing sail as they seriously affect the efficiency of the sail and consequently the speed of the boat.

No rudder is incorporated in the design for the simple reason that it complicates things and is not absolutely necessary for successful sailing. If the boat is built exactly according to the plans with the sail and mast exactly as located and the keel in the proper place, you will find that Snipe Junior will sail back and forth across the lake in great shape without the necessity of carrying the drag of a rudder through the water. The only time that a model really needs a rudder is when it is running directly with the wind, and since a rudder for this work entails a very complicated steering apparatus on deck, it is believed that the model would be better without it. Absolutely no rudder is needed for all ordinary sailing.

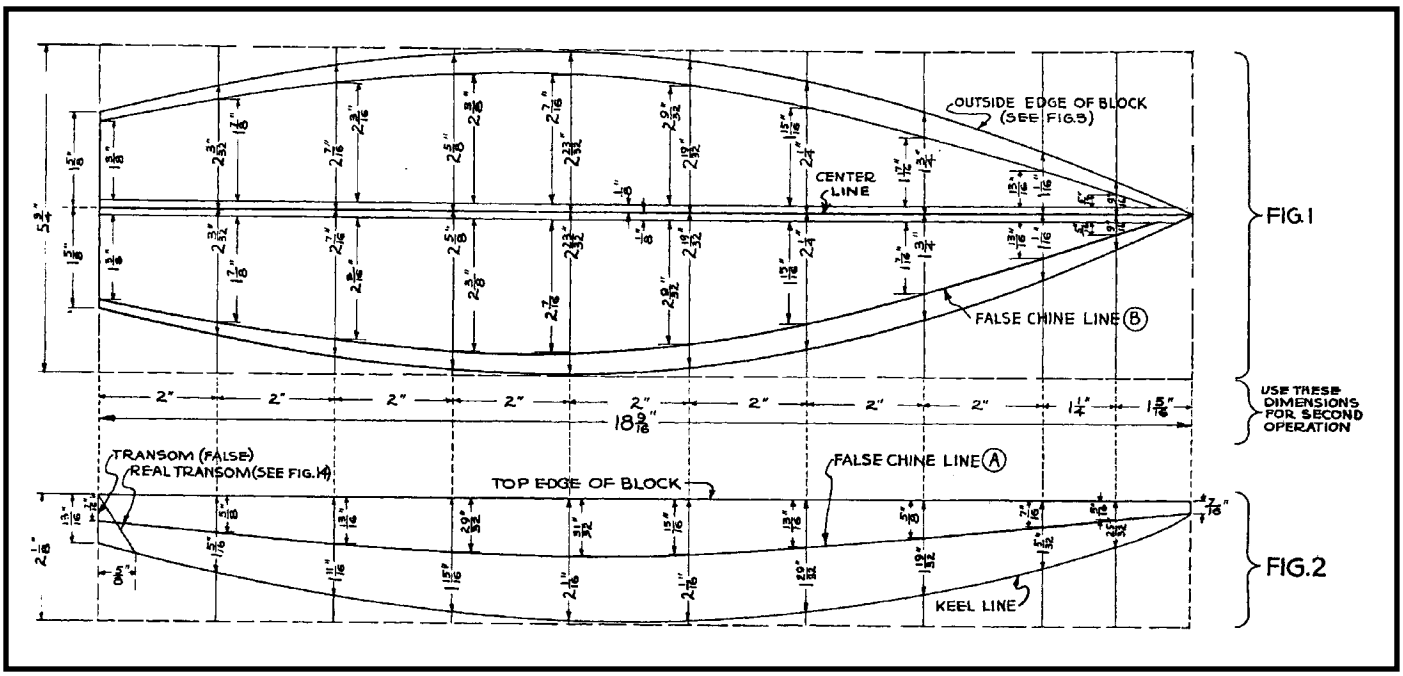
For the bottom part of the hull, which is made from a solid block, the best thing to have would be a nice block of what is known as pattern maker's kiln dried white pine. This is splendid material to work with because it is soft and will work nicely and will finish off as smooth as anyone could wish. The side pieces may also be made of the same material as well as bulkheads, stem piece and stern. The deck may be made from the same kind of wood or anything else that you happen to have handy. Sometimes it is possible to get large pieces of cigar box wood (Spanish cedar) and, if you can get this, the sides and deck will be very pretty when finished off with a little varnish. A thin piece of Philippine mahogany will also do very well and it is not as expensive as you might think. Some kinds of plywood are also suitable.

In putting on the thin side pieces, securely fasten them to the stem piece first, using 5/4" #0 flathead screws and then bend them in place slowly, fastening along the chine and to the bulkheads as you go. In order not to change the shape in any way it might be wise to work on both side pieces at the same time. The material should not be over 1/8" thick or there may be difficulty in bending it around. Soaking a piece of wood in water for several hours will make it somewhat softer and more pliable and may help you a lot.

The fin keel may be made from a piece of 16 gauge sheet brass or iron, cut to the shape as shown.

The entire hull must be sandpapered off carefully until you have an absolutely smooth surface. The nail heads (1/4" brads) for fastening the side planks in place may be countersunk a trifle and the heads covered over with putty, Plastic Wood or some similar composition. Take particular care where the edge of the deck comes over the side planks. If the boat leaks here when heeled over under sail pressure she will surely fill in time and possibly sink in the middle of the lake. Smear Ambroid or some similar material along the edge before the deck is fastened down so that the joint will be absolutely watertight.

As an alternative for the brad fastenings, you might use 1/4" #0 brass flat head



SNIPE JUNIOR

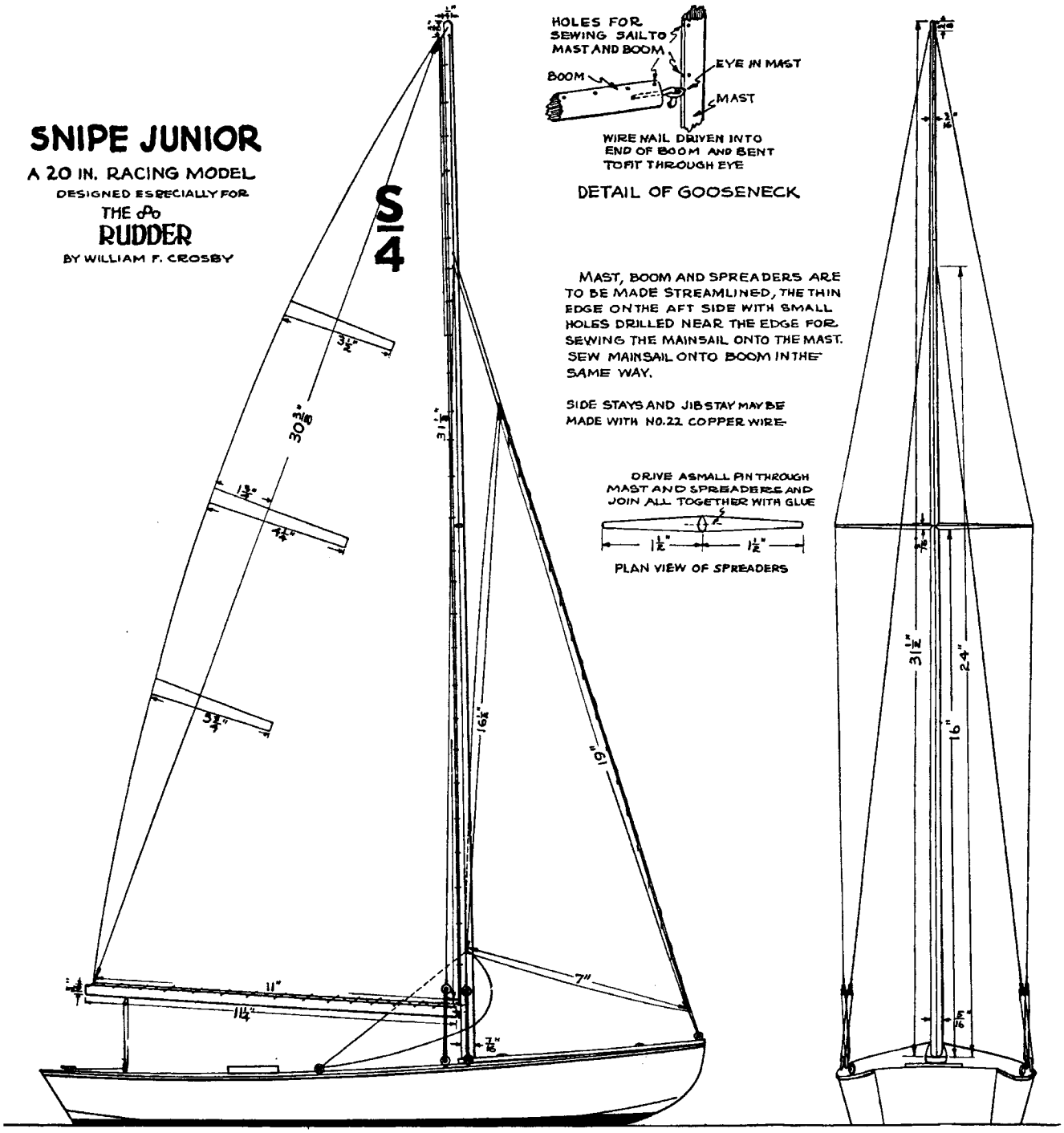
A 20 IN. RACING MODEL

DESIGNED ESPECIALLY FOR

THE

RUDDER

BY WILLIAM F. CROSBY



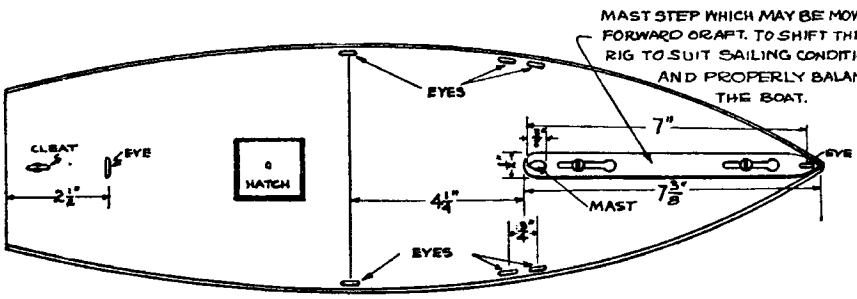
DETAIL OF GOOSENECK

MAST, BOOM AND SPREADERS ARE TO BE MADE STREAMLINED, THE THIN EDGE ON THE AFT SIDE WITH SMALL HOLES DRILLED NEAR THE EDGE FOR SEWING THE MAINSAIL ONTO THE MAST. SEW MAINSAIL ONTO BOOM IN THE SAME WAY.

SIDE STAYS AND JIB STAY MAY BE MADE WITH NO. 22 COPPER WIRE.

DRIVE A SMALL PIN THROUGH MAST AND SPREADERS AND JOIN ALL TOGETHER WITH GLUE

PLAN VIEW OF SPREADERS



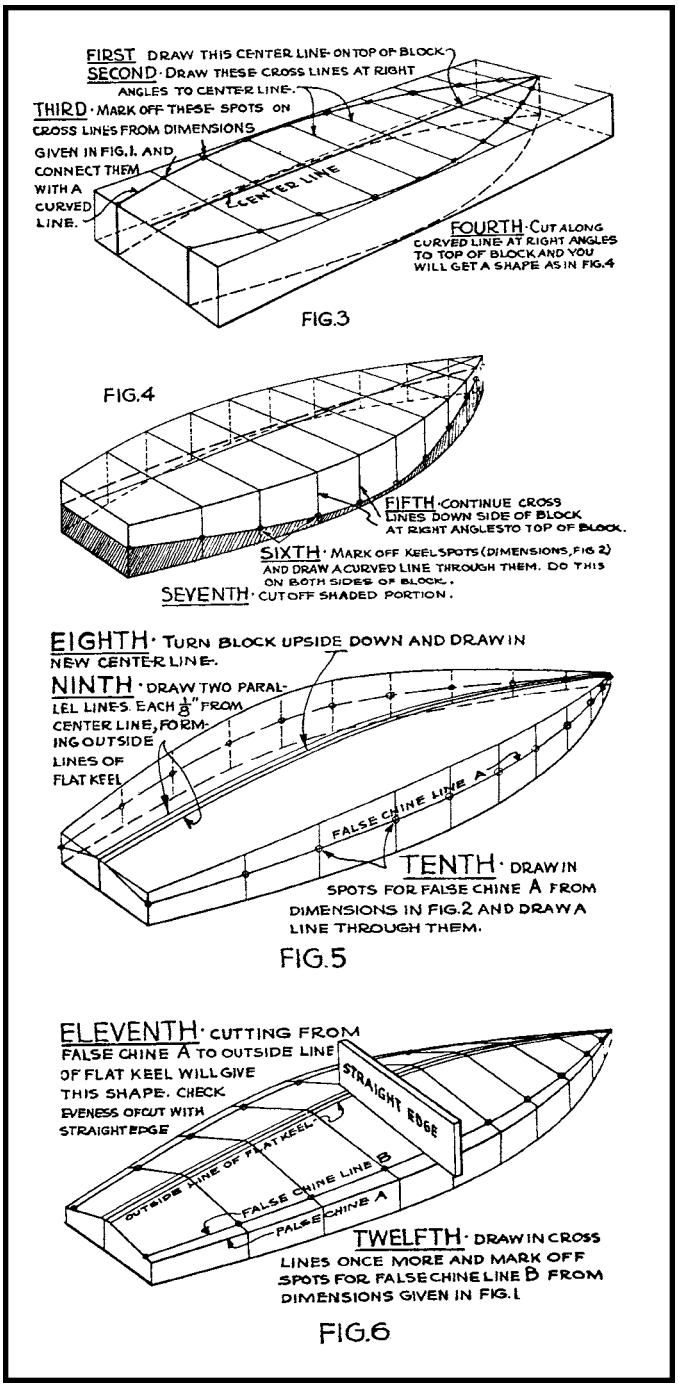
screws which will make a very pretty job that may be varnished when complete. The hull, when sanded down perfectly smooth, may be painted in any way you wish. Some of the lacquers used for touching up automobiles are very good as they will lie smoothly on the wood, and if a couple of coats are given, with a light sandpapering between the first and second coats, you will have a real "racing finish." The deck may be sandpapered and coated with a light coat of good varnish. Don't make the mistake of putting on thick coats of paint. It is far better to use two or three thin coats rather than one heavy coat as the paint will not crawl but will finish off much smoother.

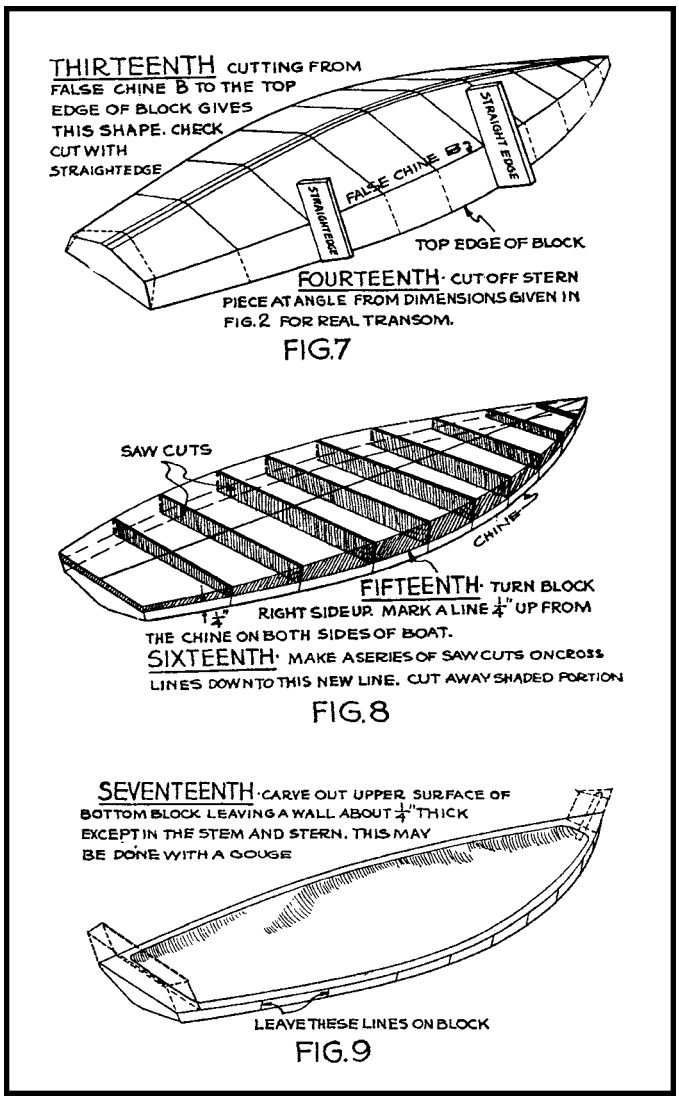
The stays from the mast to the deck are made of #22 copper wire which is passed around small screw eyes in the deck at the spots where they are supposed to come down. The jib is sewed directly to the jib stay. For the sheets from the point of the jib to deck and from the end of the boom to deck use light linen thread. Don't use heavy, clumsy cord for this.

In sailing the model, remember that she will do her best when going across the wind. By this it is meant that if the wind is from the south, your model will sail best from east to west or from west to east. In sailing on large bodies of open water the model should be tended with a rowboat or you can attach a light cord to the bow, permit her to sail out to sea across the wind and then, by pulling gently on the cord, she may be turned about and will sail back to you. Of course, you must take in the light cord slowly so it will not retard her speed too much. Don't try to sail in too much wind. The best breeze is one that just barely ripples the surface of the water. Heavy breezes cause a model to lie way over on its side and will sometimes cause it to turn around and start back to the place from which it was started.

After sailing the model a few times, you will discover by experiment just where the mast step should be to have her sail properly. One of the chief faults of most model skippers is to have the sails, and particularly the jib, too tightly pulled in or trimmed. Allow a little slack in the cord that holds the jib in place so that the jib can flow off in a nice curve and so that it draws properly. The end of the jib where the sheet is tied should be almost out to the side of the model. The same thing applies to the mainsail and where it is fastened. It should be allowed to swing out a little so that the boom is about over the edge of the deck. If pulled in too tightly she will not sail properly and if too slack or too far out the model may tend to get out in the middle of the lake and sail around in a circle while you may wait on shore for hours for her to come back.

There are many ways to race models and some of the large model yacht associations have worked out complicated courses and systems of point scoring. Probably the easiest and simplest way to race such models as Snipe Junior would be to select some small body of water or lake where the models could be sailed directly across wind from one side to the other. The start could be made on one side by one boy while another waited across the lake to turn the model around when she





reached there and so back to the start. At the start all models would be lined up and held by their sterns and, at the signal, released with a gentle push. Don't push them too hard as they will not carry their momentum and may possibly turn right around and come back to you.

The best model racers do not push their models at all but permit the wind to take the boats out of their hands when the starting signal is given. A race may be just once across the lake, it may be over and back or it may include several round trips according to the time available. In turning the boats around to return on their next laps, do not take them from the water. Simply use a short piece of wood to turn the bow so that it is facing the other way. Never push the model when doing this, as it is against all racing rules.

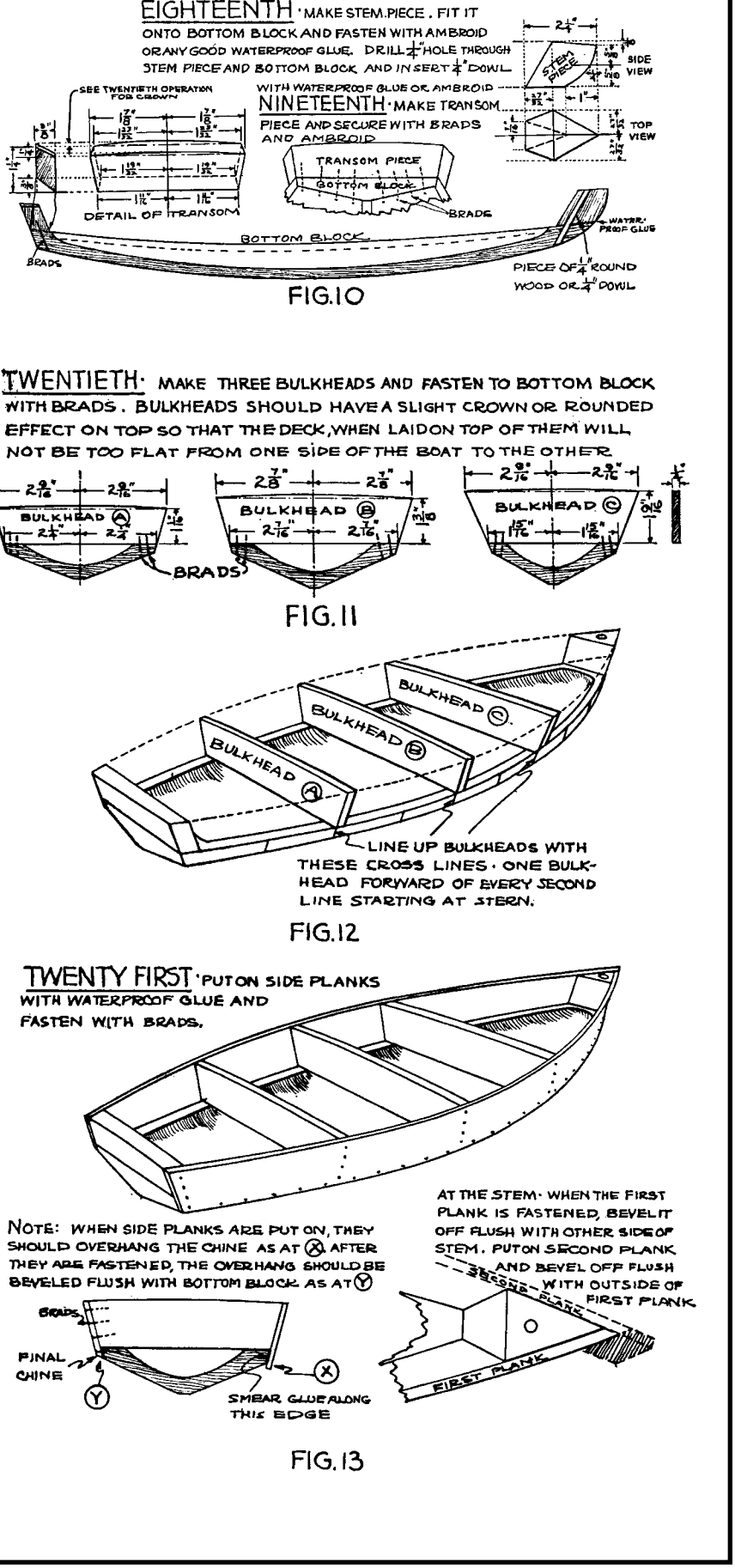
If you have your model properly built and properly balanced so that it will sail correctly, she will sail back and forth across the lake with the minimum amount of attention and, as a consequence, will have a splendid chance of winning races. This process of balancing is one that takes time, and while the drawings show the boat very carefully balanced, there may be minor changes in your boat that may necessitate some rebalancing before she sails correctly. The process is one that takes time and patience and if your model does not sail properly the first dozen or so times, it is up to you to experiment with the location of the mast step and the trim of the sails to see that an improvement is made. It is not an easy job to have a small model balance perfectly but it can be done and when accomplished the results are well worthwhile. A perfectly balanced model will win races.

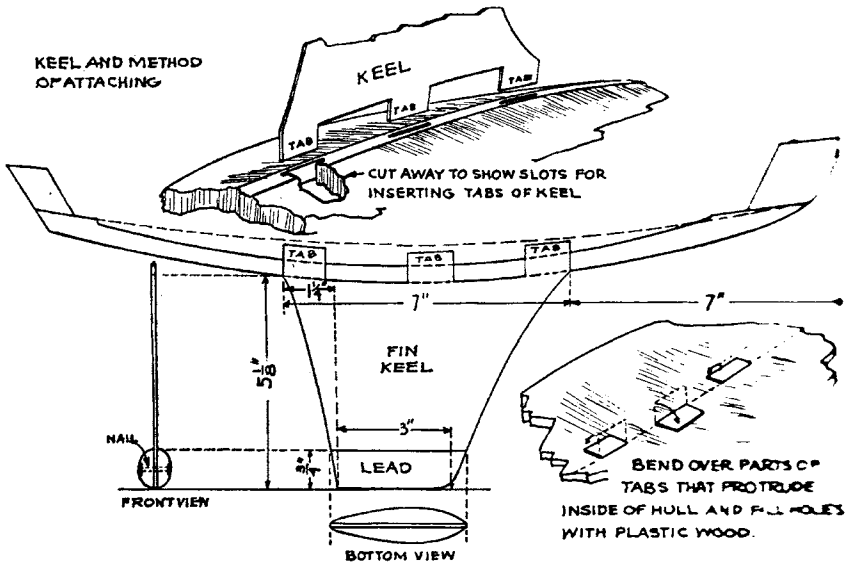
Possibly you may not understand what is meant by balance, and in order to make it clearer we will briefly outline what it means. The pressure on the sails caused by the wind would cause the model to go sideways faster than she would go ahead were it not for the keel down underneath the water. This keel serves two purposes; the lead weight serves to hold the model upright and prevent capsizing, and the area of the metal causes a back pressure against the water when the pressure is applied to the sails, thus preventing the boat from sailing sideways.

There is a very definite relation between the amount of pressure on the sails and the amount of pressure on the side of the keel and the sails' center of pressure is called the center of effort. The center of pressure on the keel is called the center of lateral plane and in a successful sailboat the designer has worked out by mathematics the locations of both centers and so placed the mast and keel that the center of effort comes in a certain relation to the center of lateral plane.

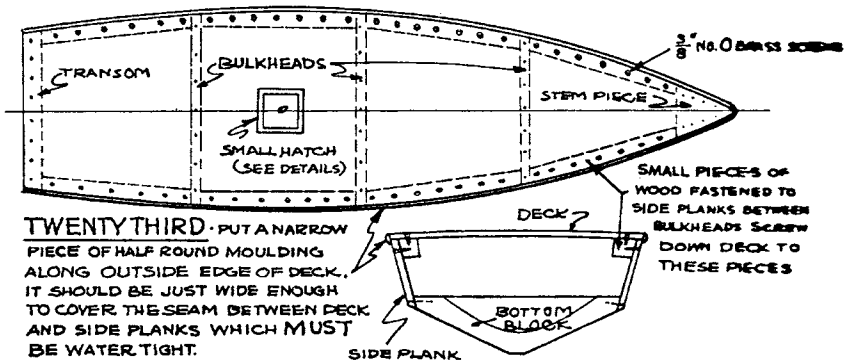
If the center of effort is too far ahead of the center of lateral plane, the boat's bow will tend to fall off or be pushed away from the direction of the wind, eventually causing the boat to turn around and start off in the other direction. If the center of effort is too far toward the stern, the boat will swing her bow up so that it faces into the wind eventually will swing over on the other tack and head back where she came from.

By moving the keel of Snipe Junior forward or aft a little it is possible to bring the center of lateral plane into different relation to the center of effort and, with care and a little head work, you can get the balance so fine that the model will sail a straight, true course clear across the lake and back. Naturally, a



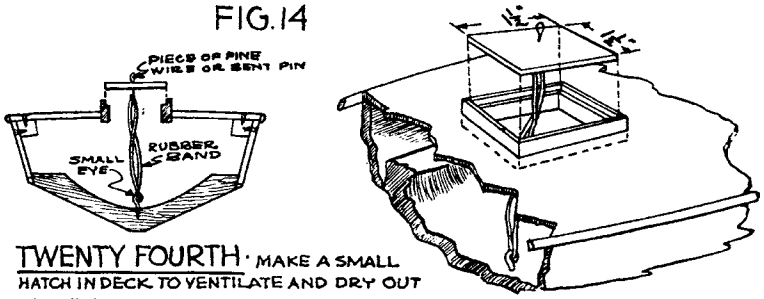


TWENTY SECOND · FIT THE DECK INTO PLACE AND FASTEN WITH BRADS DRIVEN INTO THE BULKHEADS, STEM AND TRANSOM. A COATING OF AMBROID SHOULD BE APPLIED TO TOP EDGES OF SIDES BEFORE FASTENING. TRIM EDGES OF DECK FLUSH WITH SIDE PLANKS



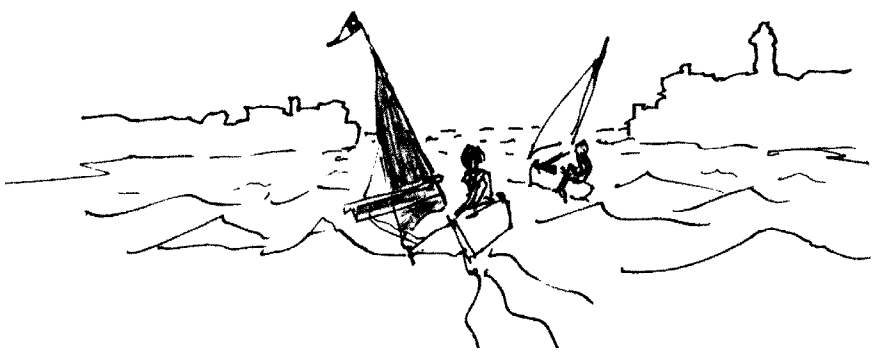
TWENTY THIRD · PUT A NARROW PIECE OF HALF ROUND MOULDING ALONG OUTSIDE EDGE OF DECK. IT SHOULD BE JUST WIDE ENOUGH TO COVER THE SEAM BETWEEN DECK AND SIDE PLANKS WHICH MUST BE WATER TIGHT.

FIG. 14



TWENTY FOURTH · MAKE A SMALL HATCH IN DECK TO VENTILATE AND DRY OUT INSIDE OF HULL AFTER RACING. MAY BE MADE FROM MATERIAL ABOUT $\frac{1}{8}$" THICK. PUT A PIECE OF WIRE OR A BENT PIN THROUGH COVER AND CONNECT TO A SMALL EYE IN BOTTOM BLOCK WITH RUBBER BAND TO HOLD COVER DOWN TIGHT. HATCH MUST BE WATER TIGHT WHERE IT GOES THROUGH DECK.

FIG. 15



model that sails the straightest course and does not go off on another tack every once in a while is going to be the model that will win all the races and careful balancing is well worthwhile.

Multiplexing NMEA

By Capt Dan

I personally know a number of folks who own cruising boats that have both a GPS and an autopilot but the two devices do not communicate with one another. So how do we fix that and what is NMEA anyway? NMEA is an acronym for the National Marine Electronics Association and what I am about to discuss is NMEA 0183, which is a combined electrical and data specification for communication between marine electronic devices such as sounders, gyrocompass, autopilots, GPS receivers and many other types of instruments.

The NMEA 0183 standard uses a simple ASCII serial communications protocol that defines how data is transmitted in a "sentence" from one "talker" to multiple "listeners" at a time. Through the use of intermediate expanders a talker can have a unidirectional conversation with a nearly unlimited number of listeners, and using a multiplexer, multiple sensors can talk to a single computer port.

Recently there have been several good articles in this publication on running GPS chart plotter software on tablets and computers. So I thought I would share my experience in taking all that to the next level. Now some of you can afford to just go out and buy the latest, greatest, highfalutin, hoity toity color GPS chart/plotter/sounder/sonar. The problem with that is in about six months, due to planned obsolescence, there will be something slicker, faster, better (at least that is what the marketing brochure states) and don't forget you have to buy those expensive new chart cartridges to keep your charts updated.

I believe my way is better because it is much less expensive and more reliable. Newer versions of NMEA, such as NMEA 2000, will "network" all the electronics on a boat but what happens if the network goes down? My experience with networks is that they all are finicky, unreliable and take some expertise to maintain, so why put one on a boat?

I hate hand steering a boat for long periods and a Pilot will free you up from that drudgery, but unless the Pilot is interfaced with the GPS you can only steer a straight line, ignoring set and drift. So how do we accomplish this? We do it with a NMEA multiplexer. A NMEA multiplexer is a small solid state device that will take the data output of the GPS, isolate it, amplify it and send it to your PC chart plotter.

It will then take the PC chart plotter output, isolate and amplify that and send it on to your Pilot. While there are commercial multiplexers out there, mine was built by my friend and neighbor Gid Godwin in a 1"x1.5"x3.5" Radio Shack project box using one transistor and a diode and cost about $15 (plus an 18-pack of Bud Light which is the medium of exchange around here) to build.

Gid is a marine electrician and a genius with an Information Technology degree. Why, one day he was with his boss and two other guys fishing a wire up the stainless steel tower on a 70' sport fisherman (owned by an infamous local billionaire) to install some piece of gear when it got to be five o'clock somewhere and they left for the day.

The next morning he went back down to the boat by himself to complete the job and discovered that the Naugahyde headliner in the cabin was sagging way down. After poking around he found that the headliner was full of water. Next he was shocked to find out that a large electronics bay was also full of water. It was then that he realized that the day before, when fishing the wire up the tower,

they had nicked a washdown line that ran up the tower and now water was running back down one of the tower legs and into the boat.

In a panic, he called his boss who blew him off with "deal with it." He searched and searched for a way to turn the water off without results and called his boss several more times always getting the same but more emphatic answer, "DEAL WITH IT!" Finally, after several hours had passed the boat's captain came aboard and shut the water off.

When he took the captain down below and said, "Look, the Naugahyde headliner is all wet," the captain exclaimed, "Naugahyde. Man, that is ostrich leather! That headliner cost over a hundred grand and there are only two yards in this country, both of which are over on the East Coast, that can install it." It was reported that when his boss learned of this he had just been served lunch at a Destin restaurant and turned his chair over leaving to come and "deal with it." Several Shop Vacs saved the day.

Now, where were we? Oh. So what I did was buy an old Garmin GPS Map 210 chart plotter that will export NMEA 0183 data through the multiplexer to a little $150 HP Netbook computer running SeaClear software and then send it to the Pilot. Since NMEA 0183 is a serial port communications protocol and newer computers don't have serial ports, I had to buy a USB to serial adaptor. The model XS 880 I found at http://www.usconverters.com/ is designed to work with all versions of Windows.

You can also get GPS data from a GPS dongle which is a little $30 GPS receiver on the end of a USB cable. I have one to use as a backup. The reason I have the Garmin GPS Map 210 is so that I can have an external antenna that is higher than my pilothouse. I upgraded the 210's antenna to a Garmin GA 30.

The advantages to this system are many. The SeaClear chart plotter software is free to download over the internet and uses the FREE NOAA charts that are continuously updated. SeaClear, with all the charts, may even be loaded and run from a USB flash drive. It did take some experimenting to get it all set up but once it was, oh man, does it work well. One thing I learned, and this is very important, the startup sequence MUST BE IN THIS ORDER, With everything turned OFF:

1. USB plugged in.
2. PC ON
3. Start SeaClear
4. Turn on GPS

Do it any other way and the mouse runs away bouncing all over the screen due to some glitch in Windows. I have run on the Intracoastal from Pensacola, Florida, to Apalachicola (over 600 waypoints) with only my finger on the "chicken out'" button going under bridges. It is easy to program a route along the "magenta" line by just clicking the mouse.

WARNING, WARNING, NEVER EVER trust anything electronic in close quarters, period! You never know when the durn thing might go BONKERS on you! Also, with such luxury you will be tempted to go below, DON'T, and most importantly don't forget the Rules of the Road CG 169 Rule 5:

RULE 5: Lookout. Every vessel shall at all times maintain a proper lookout by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision. Thucydides (a dead Greek) said "a collision at sea will ruin your entire day."

After I programmed in all those waypoints, I was very vigilant the first trip and had to tweak the routes a bit if I got off course a little. This was especially true in areas where there are a lot of twists and turns. I just made notes on a paper chart to make my corrections later. Just as an aside, I keep a plastic clipboard with me which holds my folded paper chart. On the clipboard I write down the times for sun moon rise/set and high and low tides so I have all my information in one place.

Since I have a pilothouse and a flying bridge, I bought a USB external computer monitor for my Netbook and put it in a weather resistant box that has a non-glare Lexan cover. I leave the Netbook running out of the weather inside the pilothouse and have the external monitor up on the bridge.

My Sitex SP 70 Pilot has a long cord on the control head so I can use it inside or out. This whole system makes for much more relaxed piloting. For those interested you may watch a video of my Willard Vega *Journey* on YouTube running on the Pilot with the NMEA multiplexer. http://www.youtube.com/watch?v=og xpvm c0g or google BlackwaterBM1 (one word) youtube and you will find my channel.

If you look closely at the video you will see a "Pilot Source" switch. This is an on-off-on switch. The Multiplexer is all solid state and very unlikely to fail but the PC, well, you never know so I put this switch in just in case. Switched to the far left position it sends data directly from the GPS to the Pilot. In the far right position data is sent to the Pilot from SeaClear via the multiplexer.

Happy Multiplexing!

Hoisting the Lugsail into the 21st Century, by Roy Downes

First, look at the photograph of Surprise *on the front cover of this issue – now read on*

Reprinted from *Dinghy Cruising*, Journal of the Dinghy Cruising Association (UK)

The lugsail is a very ancient sail form. The first Chinese lugsails appeared more than 1700 years ago and these were true fore-and-aft sails, enabling their boats to sail effectively to windward more than one and a half millennia before European craft could do so. This Chinese 'junk' rig was a fully battened sail, zero twist, low mast compression balance lug. By the time of the Ming dynasty (1430 AD) this rig was in use on boats up to 500 feet long – almost twice the length of *Cutty Sark*.

In northern European waters, by the late 1700s, particularly along the Channel coasts and elsewhere around the British Isles, the less efficient but powerful dipping lug variant was in widespread use in the huge fishing fleets. The simplicity, relative ease of handling, basic spars and sail construction, minimum cordage and fittings and above all, low cost, were key factors for its utilisation.

In the early 19th century lugsail rigs drove 'gentlemen's cutter yachts' on long cruises and in early yacht races. In the western Channel very competitive and often physically combative lugger 'racing' (for much higher stakes) frequently took place between the Revenue cutters and off-duty fisherman engaged in risky but lucrative freetrading 'runs'. The lugsail is an immensely powerful sail – a report from 1838 tells of a Suffolk Beach Punt achieving 16 knots on a reach!

By the 1880s it was the rig of choice for the enthusiastic small boat sailors in the Victorian pleasure boating boom, who used both the standing lug on the Humber and Mersey yawls and (most notably on the lighter canoe yawls) the balance lug form. As a racing rig the gunter lug was hoisted across Europe until the late 1920s. The lug sail lost its popularity as sailors embraced the 'advantages' of the Bermudian rig and fishermen adopted marine engines.

Nautilus *(1886)*

Old illustrations of the lug rig working boats usually show a sagging luff on the wind and the excessively twisted leech of a boomless sail downwind. These characteristics are replicated in more recent times: just look at the photos (circa 1978) of Fabian Bush's 18ft lugger as illustrated in *Spritsails and Lugsails* by John Leather. Even DCA President Roger Barnes sports a lovely traditional twisted boomless mainsail on *Avel Dro. (Bulletin 214 p56).*

Viking*: 1886 Humber Yawl at Fowey Classics. ©Richard Waldram*

But the 1993 launching of *Roxanne*, a 30ft high-tech lugsail yawl from the board of Nigel Irens, consigned to Davy Jones's Locker all the historical baggage surrounding the lugsail as she sliced through the fleet in Falmouth Classics to take the Overall Winner trophy.

The cult of the modern lugger was born. This is the account of one of these, an 18ft centreboard dinghy, following in the wake of *Roxanne*.

☆ ☆ ☆ ☆ ☆

The old fisherman, leaning on the harbour wall at Mevagissey as we ghosted in below him one calm afternoon, summed up everybody's questions about *Surprise*:

'What sort of boat is THAT then?'

Tempted briefly to answer in the vernacular – 'She'm a simple Cornish lugger me 'ansome' – would have been both patronising and possibly less than truthful. Cornish yes, with St Piran's cross flying at the peak and the distinctive Fy (Fowey yawl) sail insignia, a lugger undoubtedly ... but simple? I'm wasn't so sure, so I replied that she was a sort of a modern version of a typical old West Country 'punt' – the traditional small boat used by watermen.

Surprise was launched in 1973 as National 18 No.303, with a conventional Bermudian sailplan,

though with a lower aspect ratio than her racing sisters, as from the outset she was intended to be a cruising boat. The GRP hull, moulded to the 1968 Ian Proctor design (identical to Roger Bamford's *Sea Fever* (Bulletin 218 and earlier issues) with a 7ft beam, a 65lb cast alloy aerofoil centreplate, large bow and stern tanks (just like Proctor's Wayfarer), a trapeze, three headsails, a storm trysail and a spinnaker. We went cruising from our mooring at Lee on the Solent, all over and out of the Solent to Chichester Harbour, Christchurch, Poole and beyond. We sailed down to Helford (Cornwall) and back, and the following year down to Salcombe and back. So four times round Portland Bill.

One fine day we stripped out all the cruising gear, packed our lunch and sailed non-stop around the Isle of Wight in under 12 hours. But an inescapable fact of dinghy cruising life is living with wet sails ... in our case, a lot of them (they were all used). The other downside for us was a more fundamental design problem: all our dry gear had to be stowed in the bow and stern tanks, precisely where one doesn't want weight in a small boat, and this gave us problems in heavy weather.

After 10 years it was time for a rethink: one big sail with industrial reefs, a little mizzen for balance and gear stowage under the cockpit floor towards the centre of the hull.

The inspiration for this radical re-rig and the associated rebuild of *Surprise* came primarily from the sailing canoes of the 1880s. These were the hot-shot boats of the era, allowing the inventive Victorian sailors almost unlimited scope of design and experimentation. Their preferred sailplan was a fully-battened balanced lugsail with a small (often sprit) mizzen. The efficiency of the traditional Chinese junk rig was another aspect of my thinking. Sail plan doodles and layout drawings multiplied. Ideas crystallised. But the undertaking posed risks: it was going to be costly ... and what if it didn't work?

In 1983 my crew and I got married, moved from London to Cornwall, raised a family and embarked on the restoration of a much neglected house. The entire boat project moved to the proverbial back burner.

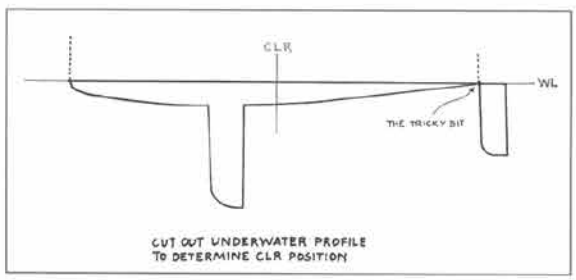
The catalyst for action was the launching of *Roxanne*, so we dusted off the old drawings and doodles – and then came seriously unstuck. There is a world of difference between dreams, doodles and ideas and the practical mechanics of making such a radical rig transformation to a small boat. In that pre-internet age there was no ready access to reference material to explain the intricacies of converting a conventional Bermudian rig to a lugsail. How would the concept work in reality? The potential expense and the risk of getting the design details wrong loomed ominously.

The only information to calculate the correct location for Centre of Effort (CE) vs Centre of Lateral Resistance (CLR) for a hull being converted from

Roxanne ©*Nigel Irens Design*

Bermudian to lug was in *Practical Junk Rig* by Haslar and McLeod. But the authors focused exclusively on yachts with long keels, not dinghies, and featured the true Chinese junk rig, rather than a Western standing or balance lug. So not as simple as you might think without access to sophisticated computer software. Which we didn't have.

So we applied a more traditional method: the model. Using very stiff but thin, cuttable cardboard, we made an absolutely accurate scale drawing of the underwater profile of *Surprise*, with centreplate AND rudder blade fully lowered (blade only, not the stock). Then very carefully we cut out this profile ... the tricky bit is cutting the cardboard right at the transom because there is only the underwater section of the rudder attached to the boat waterline by a whisker of cardboard and the rudder blade must remain in its proper (ie sailing) position. Then we stuck a pin into this profile, initially just aft of the centreplate and moved it fore and aft until the entire profile balanced perfectly horizontally. Bingo! That's the position of the CLR. Getting this right is absolutely vital if you want to sail a well-balanced boat.



We had some puzzles with the sailplan trying to determine the sheeting angle but Nigel Irens – with great generosity and a lot of his time, as we sat aboard *Romilly* (*Roxanne's* little sister) at Southampton Boat Show, imparted valuable insights into the optimum sheeting angles for a boomless fully-battened lugsail. This determined the precise fore and aft positioning of the thwart which carried the full width mainsheet traveller. The construction of the new *Surprise* could move ahead at last.

Technology is the key to success for the modern lugger. Most particularly in the departments of minimal deflection spars, low distortion fabric (woven please, not Kevlar) and in virtually zero-stretch cordage. For the first time it is possible to apply and maintain constant tension to the luff of the sail. One hundred and twenty years ago fishermen were using chain halliards in their efforts to minimise stretch but they were still defeated by the slack performance of flax canvas sails and hempen bolt ropes.

A sail will lose 20% of its potential drive if allowed to twist just 30° between foot and head and the traditional lugsail often operated at worse than 50% twist. Oops! Let's apply the available upgrades.

SPARS

First of all the mast shouldn't bend, because if it does the luff (and halliard) tension will slacken. Modern composites, aluminium or skilfully laminated wooden spars will minimise bend. The spars on *Surprise* are all carbon fibre: mast, yard and mizzen were custom made, but the bumkin is a section of broken windsurfer mast.

Even more important, the lugsail yard shouldn't bend at all. If it does (typically in banana shape: downwards at the throat through luff tension, upwards at the halliard sling point and downwards from the peak through leech tension) your sail will assume a shape altogether different to the one intended by the sailmaker (unless it has been cut to fit a bendy yard) and no amount of tweaking will put it right. I know: we initially suffered a bendy yard on *Surprise* and I began to wonder if my 'second mortgage' level of investment in carbon fibre was such a clever idea after all.

Fortunately CompoTech (a former contractor to the Soviet military and space effort based in Czechoslovakia), had just established their agent in the UK, which saved the day.

They produced a zero deflection yard, lighter and better profiled: a complex tube starting as a circular form at 55mm dia, increasing to 70mm ovoid, then parallel at this width before finally tapering over 3350mm to a circular section 35mm dia at the outboard (peak) end. And still cheaper than our home-grown but now defunct Carbospars.

The bendy Carbospars yard was adapted to make the boom when we changed the rig from standing lug to balance lug.

Why did we do this? Well, you only have to experience once a Chinese gybe in 27 knots of wind and endure the ignominy of being dragged down by the sheer windage of the twisted sail to the inevitable capsize* in front of the entire Falmouth Classics fleet to appreciate that a boomed sail is far less likely to provoke this degree of helplessness. A Chinese gybe prevents either luffing up into the wind or bearing away and it also prevents you from lowering the sail. In a word – you're stuffed! Add the boom.

The two other good things about a boom: a balance lug with a multiple purchase tack downhaul (in our case a winch taking the tail of a 2:1 purchase) can apply significant tension on the tack point – which of course is some way aft of the actual tack of the sail so the boom effectively acts as a kicking strap (boom vang). The other upside is the remarkable benefit it gives to camber control.

SAILS

Surprise sets a loose-footed sail secured to the boom only at the tack and clew. The area of the mainsail is 167 sq ft and the mizzen, a traditional 'leg of mutton' planform, with a single full-length diagonal batten, is really just a balancing sail at only 17 sq ft.

James Lawrence, our sailmaker, recommended for the mainsail (or more properly 'the foresail') a 5.5oz tight-woven, soft-finish cloth, heavier than usual for a dinghy of this size, to counteract the very considerable loading a lug rig places on the fabric. They were absolutely right: after 15 years the sail shape is still perfect.

Another reason why the sail is in good shape is because it has never flogged. A flogging sail will rapidly break up the stitching, coating and fibres of the fabric. In very strong winds a flogging sail creates huge windage drag and can make boat management very difficult, quite apart from upsetting the already whimpering crew!

With its four full-length battens *Surprise's* mainsail sail can be eased – unreefed – in 37-knot squalls (yes, we've been there, done that, got the White Knuckle T-shirt) and remain perfectly silent and fully under control. As accurately observed by Lord Byron in *Childe Harold*, 'This quiet sail is as a noiseless wing.' It is really responsive, delivering 'power on' or 'power off', just like the accelerator on a high-performance car.

BATTENS

Surprise uses the widely available and tunable cruciform + section GRP batten. The horizontal (lateral) arms of the + can be planed down towards the luff to increase batten flex exactly where it is needed, whilst retaining a very stiff section towards

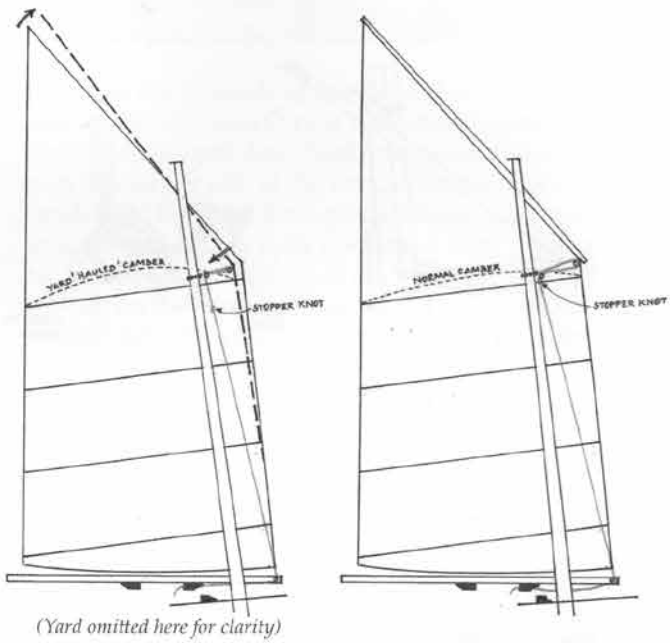
the leech. The battens are tensioned with a simple strap and locking buckle system. The applied tension determines the basic pre-set or default curvature for the sail since once hoisted it isn't possible to make any further adjustments to batten tension. We alter the sail with very effective control lines which allow the sailcloth to dictate the batten curvature and camber of the sail.

SAIL CONTROL

Starting at the peak, there is an 8:1 mini-block tackle to apply significant tension along the head of the sail laced to the yard. This is another very important setting to be determined before the sail is hoisted and we use a self-adhesive numbered tuning scale stuck to the outboard end of the yard to accurately replicate settings. Curiously this well-tensioned section of sail immediately below the yard acts as our key sail trim indicator: it gives us the same information as the luff of a regular Bermudian mainsail or a jib. When it flutters we're pinching or sheeting incorrectly. The real luff of the sail is completely unreliable as an indicator. So I tend to get one helluva crick in my neck peering up at the yard!

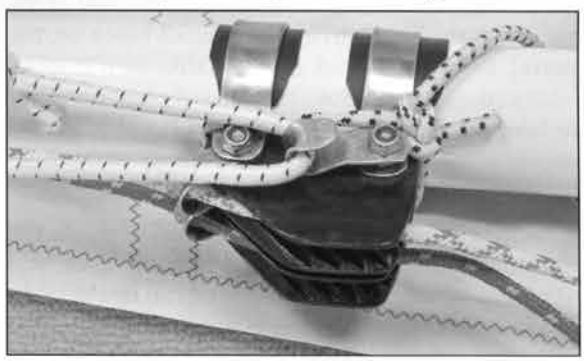
The camber (flow) of the sail is easily altered underway with two simple controls. Primary adjustment is foot tension. The clew is attached to the boom very simply: just 3 turns of Dyneema rope passing quite slackly around the boom and through the clew cringle. The outhaul control line leads forward from a two-block purchase at the clew to approximately midway along the boom, within easy reach of helmsman or crew and is jammed with a big clam cleat. Also attached to the clew is a powerful bungee strop which, when tensioned, stretches back to mid-way, on both sides, along the boom. When we come off the wind the outhaul is released and the bungee instantly pulls the clew forward along the boom, increasing the camber (flow) of the sail from the flattest windward setting 1:16 to an obscenely obese 1:6 for downwind sailing. That's a curvature approaching 20 inches (50cm) at the point of maximum chord along the foot. (See drawings) The increase in drive is phenomenal – so simple and sooooo effective. Who needs a spinnaker?

The other sail shape control is the yard heel control which is effectively a yard 'hauling' system. As Chris Waite noted in Bulletin 218, (*The String Thing*) an uncontrolled lugsail yard can, with no encouragement whatever, pierce the foredeck like a lance if inadvertently released.

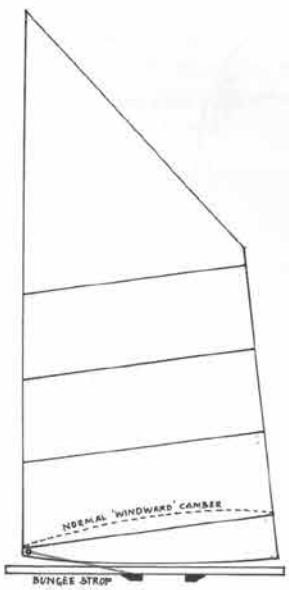


(Yard omitted here for clarity)

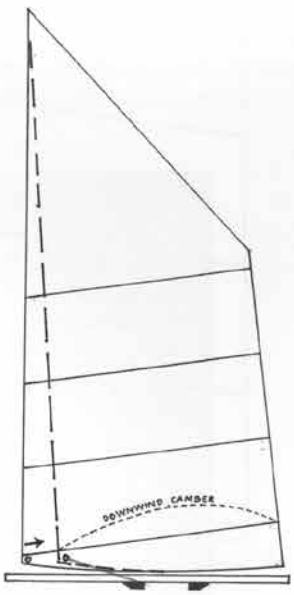
We've been there too and have a perfect 55mm dia hole through our foredeck, now skilfully covered up with non-slip treadboards glued to the deck. As this unwelcome event took place in the first week after *Surprise* was re-launched (imagine the language!) it was obviously the moment to address the problem. Alongside this projectile characteristic, an unrestrained yard can also cartwheel skywards even when being carefully raised or lowered; this makes handing the sail quite a challenge.



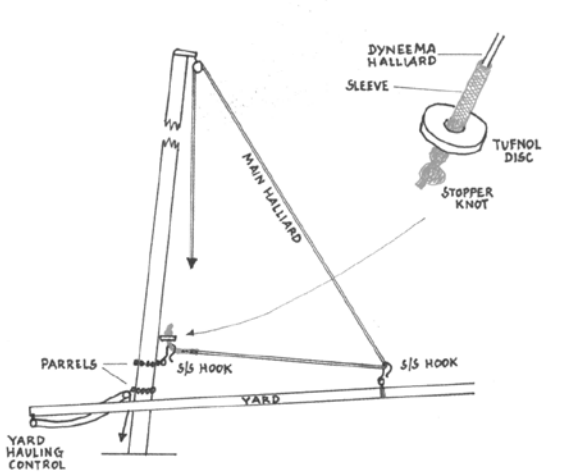
Bungee strop sail camber control tensioned to hook

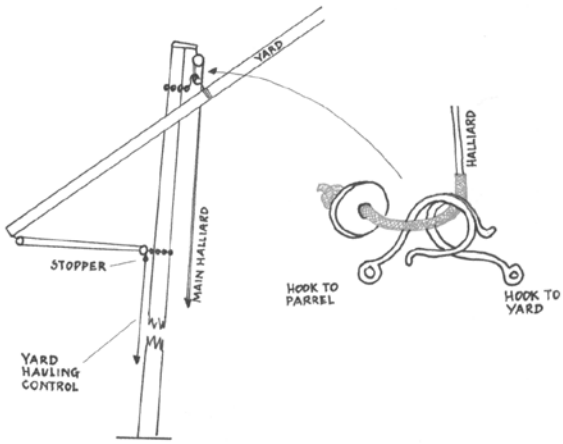


BUNGEE STROP CAMBER CONTROL
CLEW OUTHAUL TENSIONED



BUNGEE STROP CAMBER CONTROL
WITH CLEW OUTHAUL RELEASED





Fortunately the solution is very simple: add a second parrel band under the main halliard parrel *(see above)* and run a dead length rope strop from the heel of the yard to the parrel.

The parrel rises as the sail is hoisted and the length of the strop completely limits the distance the heel of the yard can rise towards horizontal: the yard cannot cartwheel or lance the deck. The length of the strop should be sufficient to allow the yard to float forward to its natural position when fully hoisted.

If you like to wring maximum performance out of your sail there is a small improvement which can be made to this simple control *(above)*.

Ditch the strop and replace it with a line starting at the parrel, thence to a small block at the heel of the yard and then back to another small block on the parrel. Below this block on the parrel tie a stopper knot in the line and put a small hard plastic washer to take the wear as it stops against the sheave and cheeks of the block. Ensure that the scope of this two-part tackle is equal to the original dead length strop.

Now the clever bit. Take the fall of the line down the foreside of the mast, through a turning block and to a cleat or jammer. On a reach or run heave in on this line. It will pull the heel of the yard towards the mast, throw fullness into the sail and simultaneously raise the peak helping to reduce leech twist. Letting it go returns the sail to its flattest camber as the yard heel takes the luff forward again. Simplz.

There are a number of different traditional methods to attach the yard to the halliard and to keep it close to the mast when raising or lowering the sail. Ever since re-launching *Surprise* in 1997 we have used this foolproof, simple and strong system, which, combined with the yard heel parrel, gives complete control over the sail. It's pretty similar in principle to the method outlined by Chris Waite.

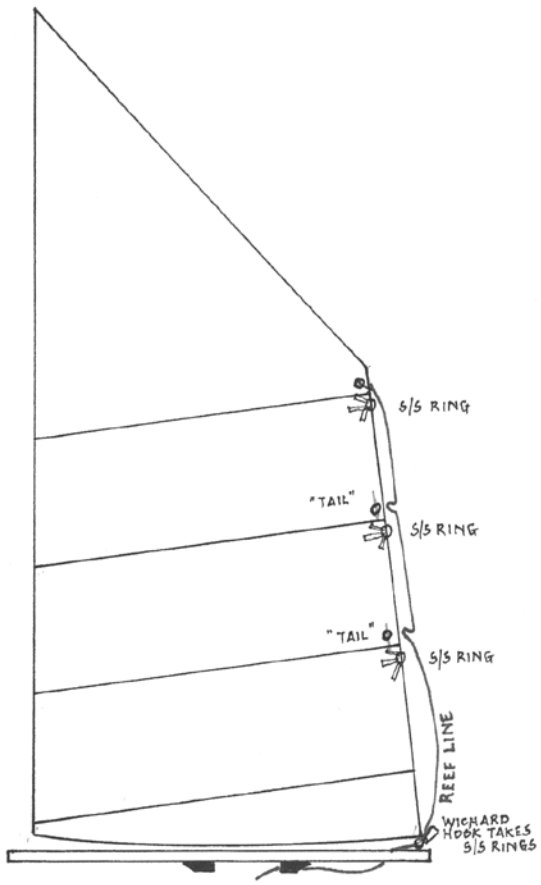
SAIL TRIMMING

Only two things to say here: don't pinch to windward and don't sheet in too hard going to windward. Lugsails (especially in these virtually cat-rigged versions) like to be sailed a little bit free. Speed through the water will usually more than compensate for the slight loss of heading angle.

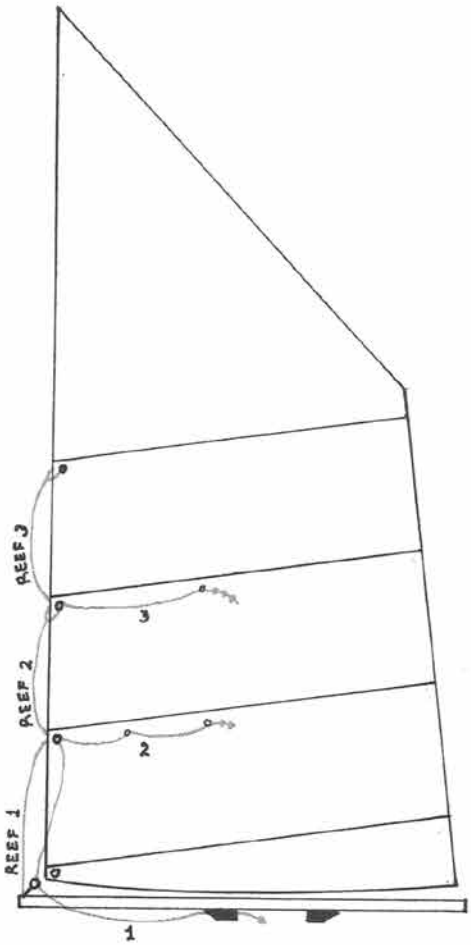
Offwind we have found that the lug rig will outperform anything else with a similar sail area and sometimes much larger boats. But offwind a boomless twisted mainsail can induce an unnerving roll. Fit the boom!

REEFING

Since all of *Surprise's* power is in one big sail, the reefing gear has received a lot of thought. We always



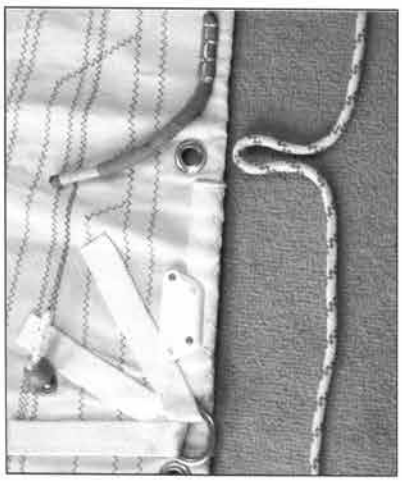
LUFF REEFING LINE



LEECH REEFING

reef when on starboard tack. The sail incorporates 3 large slab reefs, which average around 37 sq ft per slab. If we really get caught out suddenly the entire sail can be lowered in under 10 seconds.

Leech and luff each have separate control systems to manage reefing. To reduce the amount of rope required to take in up to 3 reefs there is just one line at the luff, attached to the uppermost reef cringle (Reef No. 3), instead of the more usual individual line for each reef.



Luff reefing line, eyelet and red tail

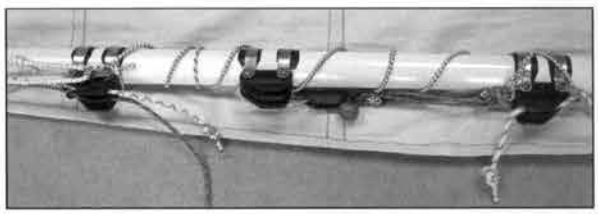
Each reef has a cringle at the luff end of the batten and a large stainless O-ring projecting forward of the luff. As the reef downhaul line passes down the port side of the sail, at the cringle for reef No. 2, a small bight is passed through the cringle, from port to starboard and is then prevented from pulling back out by pushing a tail of thick rope, stitched to the luff on the starboard side of the sail above the cringle, into the small bight, so this works in the fashion of a Dutch shackle.

Boom tack fitting (sail not attached). Luff reef line passing through rounded shackle, not block. Strong Wichard snap hook shown attached to ring

From cringle No.1 the luff line descends to the forward end of the boom, passes through a smooth shackle (it could be a block but a shackle can be through-bolted with the tack eye securing fitting) at the tack of the sail and then aft along the boom to a clam cleat. Once the reef is hauled down, the luff O-ring is attached to the heavy duty Wichard snap hook fixed at the tack and the little rope tail holding the bight passing through the cringle is removed, releasing the luff line to allow it to apply

Luff reefing showing stainless ring attached with webbing and one reefing pendant bobble

a direct pull on the next reef up. This system ensures that as a reef is pulled down, the tension on the reef downhaul line is from the lowest available reef, not from No 3 way up the mast. This prevents the 13 ft luff of the sail bellying away from the mast.

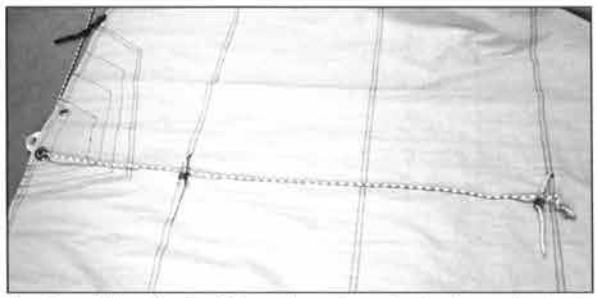


Battery of boom clam cleats showing (left) reef 2 leech line and clew outhaul control line in blue. (Right) luff reef line. All untensioned

In extremis, or if the time to be spent reefed is very short, this luff line and its clam cleat are strong enough to hold the reef without engaging the O-ring in the snap hook.

At the leech there is a rather different arrangement, also devised to reduce the amount of rope, weight aloft and windage of conventional slab reefing, which usually features a separate line for each reef, starting on the boom, rising to each reef cringle before dropping to the boom and being turned through a block and ultimately some form of cleat.

On *Surprise* only reef No. 1, the first reef, is set up this way. When in use this reef line is secured by one of a battery of four large clam cleats fastened to the boom and is tensioned with a 4:1 mini-tackle incorporating a small clam cleat to grab the fall of the reefing line. The other three clam cleats take, respectively, the



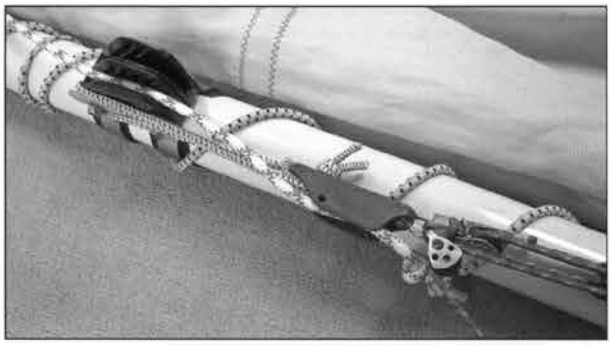
Leech reef line for Reef 2, coming down leech, through cringle and forward via small stainless rings on pendants

Reef 2 leech line hauling end, with 2 knots

Leech line for Reef 2 now at boom level when Reef 1 is taken in

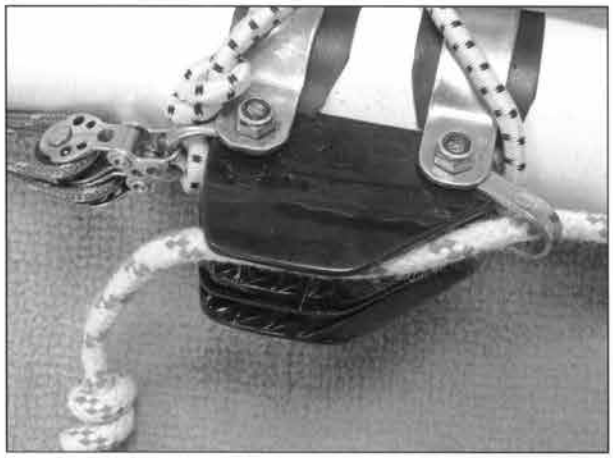
The upper (fixed) end of Reef 2 showing the line for reef 3 coming down sail leech and passing through cringle and passing forward across sail

The business end of the boom mini-tackle, bungee tensioner unhooked for clarity



Mini-tackle hauling in Reef 2 leech line

Reef line hauled and stowed in bungee spiral on boom



Luff reefing line in clam cleat, fixed end of mini-tackle

Strip shackles used to make fairleads for clam cleats, and hook

permanently-rove normal clew outhaul control line and reefs 2 and 3 when in use. A little further forward on the boom is another large clam cleat for the luff reefing line. The mini-tackle lies along the boom between these two sets of cleats and is aligned to tension lines originating at the aft end of the boom since each reef creates a new 'clew' and a new 'foot' for the sail, requiring good tension.

The reefing line for reef No.2 is secured to the cringle of reef No. 2. It drops down the port side of the leech before emerging (to starboard) through the cringle for reef No. 1, thence forward along the sail, following the line of the batten, through a couple of tiny stainless O-rings to prevent it drooping too much when not in use, to a point where it terminates vertically above but just ahead of the battery of cleats. When full sail is hoisted this reef line for No. 2 reef is of course way out of reach, some 10 ft above the deck. Taking in reef No. 1 brings reefing line No. 2 to the level of the boom. The pull to operate this reef line is directly forward, via the cringle of reef No. 1. No. 2 reef is hauled down handtight, led into the clam cleat and finally tensioned by attaching the mini-tackle. Exactly the same set-up and procedure is used for the uppermost reef No. 3. Not as complicated as it sounds – look at the drawing.

KEEPING THE YARD CLOSE TO THE MAST

The main halliard is the last bit of string – but it's important (One string to rule them all?)

The halliard and the tack downhaul are both led through clutches and are tensioned with a winch. The halliard is Dyneema so it doesn't stretch. This ensures the luff stays tight and this is fundamental to the performance of the sail.

Where the halliard passes through the clutch at normal full sail position it is sleeved with the casing of a plaited rope, to improve grip in the clutch and reduce chafe. The functioning end of the halliard is inserted into another sleeve of plaited line taken off a larger diameter rope and this – locally along its length – just about doubles the diameter of the Dyneema rope. Onto this sleeve a large Tufnol washer, made from ¼ inch thick sheet, is fitted and retained by a figure-of-eight stopper knot *(See sketches above, page 40)*.

On the main parrel which carries the yard up the mast there is a strong stainless hook shaped like a shepherd's crook, with the opening facing downwards. The opening has been squeezed to permit only the Dyneema rope to pass through it, so when the Tufnol stopper reaches the hook the diameter of the sleeved rope is too great to allow it to drop out.

An identical stainless hook – also squeezed to accept only the Dyneema halliard – is lashed to the yard to provide the sling point. It is positioned as far aft along the yard as possible to help minimise

sail twist. The received wisdom for this positioning is between one third and two fifths aft of the throat of the sail. However, moving the sling aft also reduces the gap between the tack of the sail and the deck, so unless your mast is overlong – or your luff rather short – there is a practical limit. But as far aft as possible is best.

Prior to hoisting, the yard rests on the deck by the mast, lying as far forward as the heel control strop *(see above)* will permit and then aft into the cockpit. This locates the sling point hook approximately 4 or 5ft aft of the mast parrel. To hoist the sail, the Dyneema halliard, coming from the masthead sheave, is slipped into the yard hook, from starboard to port in direction, then forward into the main parrel hook. The halliard is tensioned so that the Tufnol stopper bears against this hook. No shackles to undo, no pins to lose, no knots for cold hands. When hoisting the sail it is helpful to have the crew lift the aft end of the yard to shoulder height to take some of the weight, but it can be done single-handed. The crew can also check that no leech reefing lines are fouled around the batten ends.

The initial few feet of hoist bring the yard hook face-to-face with the parrel hook – two stainless hooks united (but not hooked together) by the large diameter sleeved end of the halliard and the stopper. With the halliard now rising vertically from the parrel, the yard is constrained from going anywhere except up – the scope for any drift being limited to the length of the two stainless hooks. The weight of the yard and sail and the tension on the halliard ensure it goes up (and comes down) close to the mast, completely under control. The heel control adds the final management touch to the operation.

So here we have a seemingly incredibly complicated interpretation of what should be a simple traditional rig. But just a minute! ... *Surprise* has:

1 halliard to hoist the sail

1 tack downhaul to tension it

I clew outhaul

1 peak outhaul

1 yard heel control

4 full-length battens (nothing new here: the Chinese had them 1700 years ago and the Victorians also thought they were quite a good idea)

Reefing controls for three reefs and 1 length of bungee to add flow to the sail (ah-ha – that's it ... that's the unnecessary complication!)

☆ ☆ ☆ ☆ ☆

'What sort of boat is THAT then?'

'She'm just a simple Cornish lugger me' ansome – and the Overall Winner of Falmouth Classics, 1999.

☆ ☆ ☆ ☆ ☆

★ I can hear Bulletin readers tut-tutting about that capsize, so let's put the event into perspective. It was the first and so far only capsize in 40 years of owning *Surprise*. We were racing. It was blowing 25 - 27 knots against a half-ebb tide on big Springs, by the Black Rock buoy at the entrance to Falmouth Harbour. The waves were quite large, *Surprise* was broad-reaching up the harbour on starboard, almost running, with two reefs in, at, I suppose, around 12 knots. Our closing speed with an approaching port tack Falmouth working boat was in the order of 18 knots. Despite stentorian bellows of 'Starboard!' it rapidly became clear he wasn't going to give way.

Our rather stark choice was a crash gybe off a full plane or – quite literally – be cut in half.

When we got ashore we were told about the notorious reputation that the working boats have when racing. Except amongst themselves, the Colreg Right of Way rules don't apply when they meet other sailing boats, most especially if the other vessel is smaller than them. As they replied to one dinghy sailor (now a quite well-known international helmsman) who had the temerity to call 'Starboard' as I did: 'It's your boat, Sonny.'

You have been warned! *RD*

Electric Minn Kota Motor Test

on the *Tippy Canoe/ African Queen-2*

By Bob McAuley

Yes, Mike renamed our former *Tippy Canoe*. Now it's the *African Queen-2* in honor of our old 18' wooden planing speed boat which served us well on the Mississippi River until the motor was stolen and the stern damaged beyond repair. Mike was one of the riders in that boat even though he was only three years old at the time.

African Queen 2.

Today we loaded our 9' *African Queen-2* inside my van along with its new motor, lithium battery, outrigger and canoe paddlers. This was to be a shakedown test of the highly modified canoe with its newly invented foam outrigger powered by our new motor. We drove to nearby 44 acre Whalon Lake. The OAT was 70°, sunny and near calm conditions. My brother Larry came along to witness the test and broadcast an SOS if need be.

My brother Larry came out for the motor test, he and I had piloted the original *African Queen* on the Mississippi River.

Mike and I assembled the outrigger to the port side with the hull floating next to the shore. He lugged the 22lb battery down and hooked up the motor onto the stern. He anointed me test pilot and I dutifully climbed in and sat at the stern next to the motor. I paddled out beyond the shore weeds, I thought, then lowered the prop into the water.

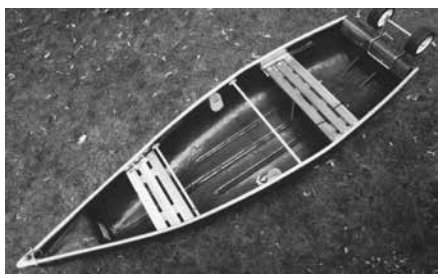
I grabbed the tiller/throttle and, steering straight ahead, selected Speed #1. With a gentle nudge and swirl of the water, *African Queen-2* moved smoothly and quietly ahead. Success. As I patted myself on my back at how smooth the ride was, major vibration began of the whole motor, rattling the tiller and pilot. I had experienced this with Bob Sullivan's motor when it picked up weeds. Glancing down into the water, I quickly realized I had found another weed patch to mow through.

After stopping the motor, I was able to tilt the motor up and free the prop from the weeds. I paddled clear of that nasty patch and resumed quiet and smooth running again. I tested all five forward speeds while doing "S" turns and found the canoe quite stable. It actually made some 1' waves. Reverse worked well, also. We had mounted the motor toward the port side of the stern to compensate for the yaw of the port-mounted outrigger. I could detect no yaw at any speed.

After I beached it, it was Mike's turn at the stern. I stayed on the dock with my brother and shot video of Mike cranking it around in circles at various speeds. Mike beached it and my brother Larry climbed in the forward seat with me in the stern. The two of us did donuts on the water. He was one of the co-owners of the original *African Queen*. How lucky we were to be alive and boating together again after all these years.

After the tests, it was tea time at the local McDonalds and debriefing. We all agreed that the stern seat was too close to the motor and interfered with the throttle/steering action. The oversize battery box wouldn't fit under the seat and was in the way. Days later, back in my home shop, we modified the seating by making new wider seat brackets to fit the wider canoe width. The new aluminum seat brackets were formed thanks to Jim Reed, Lewis University's top aircraft mechanic, because I didn't have a strong enough bending brake. Mike and I riveted those in place and re-installed the cedar seat slats.

Days later, as I studied the *African Queen-2* as it lay on my ping/pong table workbench, I decided to move the remaining seat one more width forward in front of the new outrigger thwart. That move will give more room between the fore and aft seats. This shift would allow the front fisherman to sit sideways or face the rear to keep an eye on the fishing lines when trolling. It would improve the CG and maybe the overall stability as well.



Both seats relocated forward for better CG.

So we drilled out the forward seat rivets and moved the brackets forward and just bolted them in. I bought new cedar to match the rear seat, cut it into three pieces and screwed them in place. Mike suggested trimming down the battery box, which I did. Now it fits under the rear seat and out of the way. Mike painted the outside hull Sunrise Red and the inside of the canoe Dark Brown. I applied the *African Queen-2* letters to the bow.

We were ready for another test and maybe some trolling around that new lake. I never thought I'd get into modifying a canoe like this, but desperate times require desperate measures. This 9' canoe fits well inside my minivan and saves on more hernias and strained backs for one 75 year old paddler.

Mike ready to board for our second test on October 2.

October 2, 72°, sunny and a northeast breeze of 7 to 11 knots. A 1' chop churned across Whalon Lake. This time we brought fishing gear and live worms. We installed two swivel boat seats onto the cedar canoe seats for cruising comfort. They looked good but got in our way on the water when shifting our weight to maintain balance. We won't use them again on the canoe.

Those swivel seats looked nice but got in our way. Notice the outrigger now 4" further out giving better stability.

After loading the *African Queen-2* we paddled out past that nasty weed bed. Mike, seated in the rear, twisted the throttle and away we went. The outrigger's new position 4" further out from the gunwale really made for good stability, even when we hit waves from any direction. We stowed the anchor in the bow recess and that, along with my new forward seat location, really improved the longitudinal trim and CG. At higher speeds the outrigger's blunt nose did splash water up and wet my fanny resting on the port gunwale edge for balance. Maybe I'll add a pointed bow to the blunt front, or wear rain pants!

It's so nice to have quiet power pushing us around the lake instead of that old noisy outboard. Sometimes change is great. The fish weren't biting that day but our powered canoe was a huge success. We'll be trolling for Muskies at another lake soon.

I installed two cup holders in our *African Queen-2*. I've found the empty tough

plastic Tasters Choice coffee jars make excellent cup holders mounted just below the gunwales. After removing the labels and lids. I used a fender washer and stubby screwdriver inside to mount the screw and nut.

Tasters Choice coffee cup holders in place.

I've removed the factory installed coffee cup tray between the driver and passenger front seats in my minivan to provide room for the *African Queen-2*'s bow. I made up a wooden coffee cup tray with four legs for support. It's customized around the canoe's bow. The V-notch fits the canoe bow when in the van. The three Tasters Choice cup holders mounted in a roll are deep enough to prevent spills and also serve other functions such as cell phone and sunglass storage.

Lastly, enclosed are two photos of Mike and I returning from our last paddle in the autumn on the Des Plaines River. Note

Cup holder tray now fitted to my van, stick on left braces against dash to prevent spills in sudden stops. Diagonal stick supports kayak bow when not carrying canoe.

that double set of wheels on my Take-A-Part kayak. That front set is from a discarded golf cart Mike found. I modified it to fit my bow for ease of transport on long hauls like this particular day. The pull is much easier on my shoulders.

Golf bag cart wheels under bow make toting easier with now four wheels to roll on.

We portaged a quarter-mile over freshly dropped acorns and walnuts. Hard to beat that fall wet leaf fragrance and odor of crushed acorns. The put-in was slippery and muddy after a light rain the night before. The current was up but we paddled upstream to squeeze under a bridge through shallow but quick water. We finally entered the golf course section of the river. Greens are located on either sides of the river so golfers sometimes misjudge and their Titleists go swimming! Well, the fish weren't biting but we managed to boat 80 golf balls. It was a good day on the water.

Keep on Paddlin'... Bob McAuley

Last outing of autumn netted us 80 golf balls!

The Last Oars in Clarksville

By Greg Grundtisch

Several years ago I acquired a set of oars with a boat I bought, a "find" of sorts. I saved some of the extra hardware, parts and pieces that came along with it. I then sold the boat for just a little more than I originally paid for it and retained the items that I needed for other boats and projects.

I did do a bit of cleaning up and a couple small repairs to it. This was another boat and accessories offer that I could not pass up. It turns out that the oars are somewhat vintage and collectable, or so I'm led to believe. That's what I found in the research trying to gather information on them and the company that made them.

Unfortunately there is very little known about Leatherwood Manufacturing Company, Inc, the makers of Beaver Brand Oars and paddles. Despite the access to information the internet provides for just about anything, there is very little information about this company on there.

All I could find is that Leatherwood Manufacturing in Clarksville, Tennessee, had a terrible fire and explosion on April 26, 1969, and that it was estimated to have $230,000 in damages. The company then went out of business. That is about all I know of this oar and paddle company.

I was wondering if any readers may know of Leatherwood Manufacturing and its history, and can offer some information about it. Also, is there any real collectable value to them, or are they just a nice looking pair of oars?

Please contact me at grundy@fantasiadesign.com if you can provide any information.

Rudders, Centerboards and Leeboards

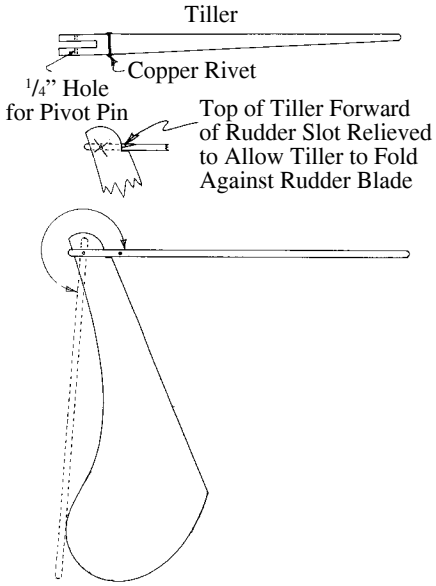
By Warren Jordan
Jordan Wood Boats
www.jordanwoodboats.com

Rudders

Rudders may be made of plywood or solid lumber. I prefer solid lumber, except in the smaller sizes, to avoid the edge grain finishing problems inherent with plywood. If you use solid lumber you may need to edge-glue several pieces to get the needed width for the blade. Fairing of the underwater surfaces reduces drag, improves efficiency and eliminates the tendency of the rudder to vibrate when under way. Round over the front edge, and taper the aft half of the blade down to 1/4" at the trailing edge.

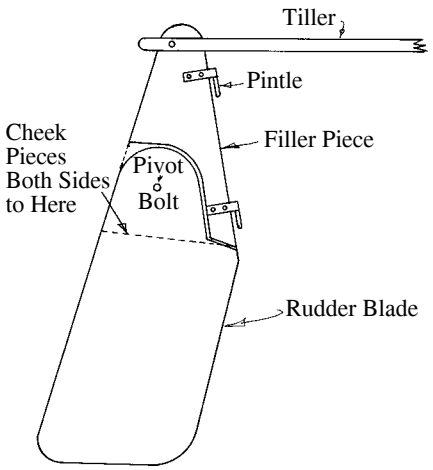
Standard Rudder

For boats that are not likely to do a lot of beaching I developed a simple one-piece rudder and a tiller that can be rotated completely around to fold against the blade for quick and compact stowing. This tiller arrangement is also quite handy for standup piloting in shoal waters.



Kick-up Rudder

For boats that are likely to see plenty of shoal water use, a kickup rudder is called for. Some of these are complicated contraptions employing pulleys, ropes, counterweights and the like, but I prefer the simple arrangement shown in the accompanying drawing. It has only four parts, a blade sandwiched between two cheek pieces which are glued to a filler piece. A bolt through the cheeks and rudder blade allow it to pivot if you go aground and a wing nut adjusts the friction



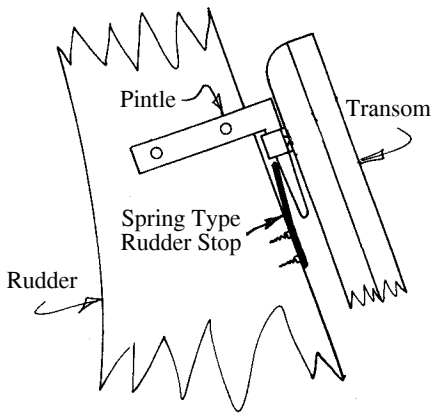
Rudder Hardware

Rudder hardware is available through most marine stores and catalogues. Pintles are fitted to the rudder and gudgeons to the transom. Rudder hardware takes a lot of abuse and requires heavy-duty attachment, so pintles should be through bolted or riveted to the rudder and gudgeons should be bolted or screwed to the transom.

Note: Pintles should always be of unequal length so you don't have to line up both at the same time while hanging over the transom. Instead, you can first insert the longer one, then the shorter one.

Rudder Stop

A wooden rudder floats unless weighted and will unship with little provocation, often under unfavorable conditions. To prevent this you should install a very simple device called a rudder stop. My favorite style is a flat stainless steel blade, 1/2" or so wide, that attaches to the leading edge of the rudder with a couple of screws. The blade is sprung out at an angle, pointing upward, and engages the underside of the upper gudgeon, preventing removal until the blade is manually depressed



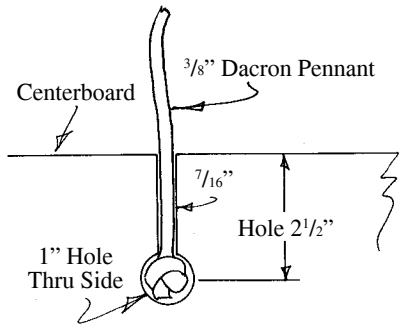
Centerboard

The centerboard is basically a retractable keel. It provides a grip on the water, resisting the sideways forces of the wind and enabling a sailboat to track with some efficiency in a direction other than directly downwind. It is housed in a watertight trunk that is securely fastened to the keelson, usually on the centerline. The centerboard pivots on a pin through its lower forward corner and swings up and down through a slot in the bottom of the boat.

It is raised and lowered by a rope (pennant) that is run through a hole in the trunk cap and belayed to a cleat near the hole. This arrangement allows the board to be hoisted when not in use and adjusted for fine tuning the center of lateral resistance for different sailing conditions. One advantage of this type of keel over a fixed keel, or even a daggerboard, is that if the boat runs into shallow waters or an underwater obstacle, the board just pivots up out of harm's way instead of causing a possibly damaging sudden stop.

Centerboards can be made of solid lumber or plywood and, like the rudder blade, they should be streamlined for better efficiency and to prevent the vibration typical of flat sided boards. Plywood boards should be fiberglassed because of the large amount of edge grain exposed by the fairing.

The accompanying drawing shows a simple and effective way to attach the pennant to the centerboard.



Centerboard Pennant Attachment

Ballasting the Centerboard

The centerboard needs to be sufficiently ballasted to sink when in use. This ballast is usually in the form of lead, melted and poured into a cavity in the lower aft part of board. There should be enough lead to sink the board promptly because, if there is just barely enough weight, the board may be forced up by water pressure while under way.

To determine the amount of ballast required, I use the foolproof method of floating the sawn but unfinished board in a tub of water, then stacking weight on until it sinks. Since we know that lead weighs 0.41 pounds per cubic inch, simply divide the weight needed to sink the board by .41 to arrive at the cubic inches of lead required. If you then cut a hole of the same cubic measurement in the centerboard, the weight of lead poured into it will be correct.

Example: By the sinking test you found it takes 10 pounds to sink the board. Since lead weighs 0.41 pounds per cubic inch, you divide 10 by .41 to arrive at 24.4 cubic inches of lead. For a 1" thick board, that would mean cutting a hole a little bigger than 4"x6", or 24 cubic inches. If you are using a 3/4" thick board, divide 24 by .75 (3/4) to arrive at a hole of 32 square inches (32 square inches x 3/4" thick is equal to 24 cubic inches).

Before pouring the lead, cut a groove around the inside edge of the cutout or drive nails around the perimeter so the lead will be securely locked into place. Clamp a backing plate to the bottom side of the hole, level the board, melt the lead and pour into the hole, overfilling slightly to allow for shrinkage. When cool, plane or scrape the lead flush with the face of the board.

Safety Notes

Be extremely careful when melting lead. You are working with a 620° molten metal that is extremely dangerous if mishandled.

If molten lead encounters water it will splatter, so make sure there is absolutely no moisture present.

Lead fumes are toxic, so provide plenty of ventilation while heating.

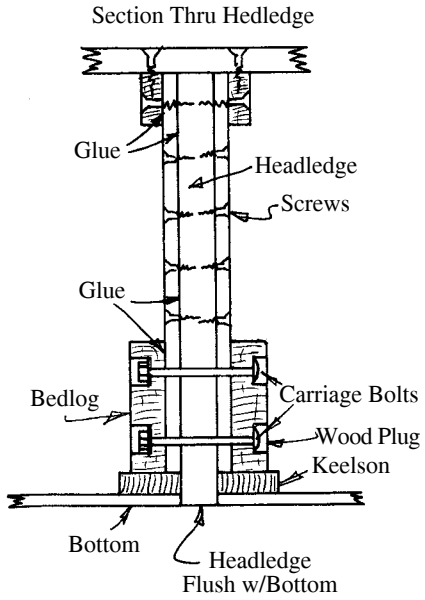
I'll re-emphasize here the dangers of molten lead with a story from one of the boat shops where I worked. We had just finished pouring 3,000 pounds of molten lead into a sand mold patterned for the keel of a sailboat

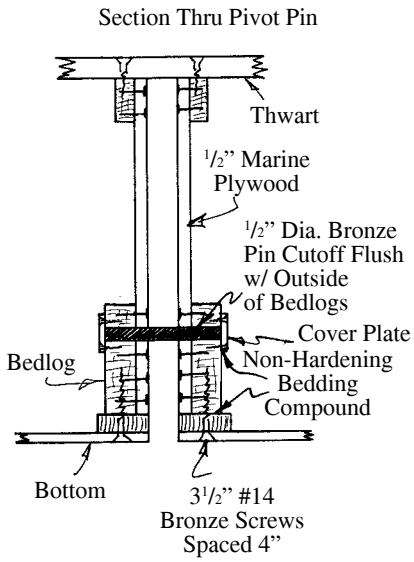
we had just completed when all hell broke loose, literally. The two halves of the mold were not strongly enough tied together and the weight of lead ripped them apart. I have no idea how all six of us escaped injury or death that day, but for some reason nobody was standing alongside the mold.

If they had been there is no way they could have remained on their feet in that dense, searing flood. As it turned out we all ran out of the shop and watched from a distance as the silvery tide spread through the shop, burning through electrical cords and scorching all the wood it came in contact with. We then spent the better part of a week chiseling and cutting the solidified carpet of lead into chunks to be re melted for the keel.

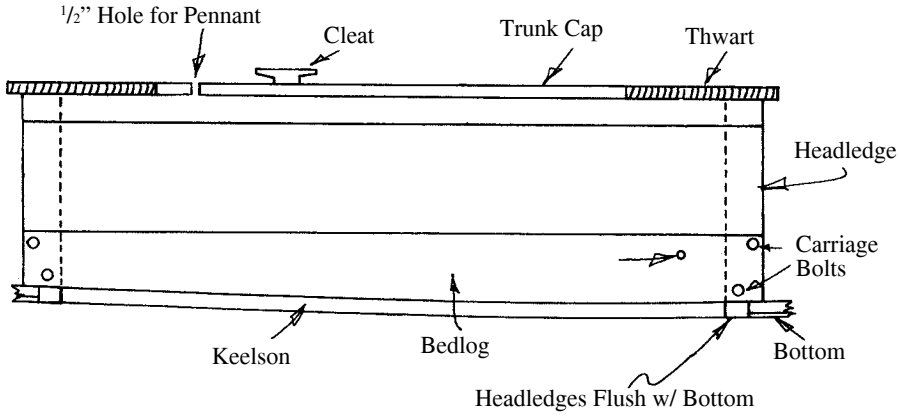
The Centerboard Trunk

The centerboard trunk is the watertight structure that houses the centerboard. Careful construction and installation of the centerboard and its trunk are vital to both the watertight integrity and the performance of the boat, so follow the plans very carefully.





Components and Procedures for Building a Typical Centerboard Trunk



Bedlogs are as long as the full length of the trunk sides and 1 1/4" thick x 4 1/2" wide at the widest point. Scribe them to fit exactly to the profile of the bottom to insure a perfect watertight fit.

Sides are 1/2" marine plywood, glued and nailed to the insides of the bedlogs. Inside surfaces are painted or finished with extra coatings before assembly since access for maintenance after assembly is difficult at best. Don't paint or finish the areas that will need to be glued.

Headledges: 1 1/4"x2 1/2". These are the spacers that separate the sides. They are exactly as thick as the width of the slot in the bottom. They penetrate through the bottom and are cut off flush with the outside planking. They extend 1" onto the keelson at each end to help provide watertightness. The sides are glued, then screwed to the headledges above the bedlogs and secured with carriage bolts through the bedlogs for maximum strength.

Pivot pin: A 1/2" diameter bronze rod extending through a hole bored through the bed logs. The pin is of a length that is flush with the outsides of the bedlogs. After installation of the centerboard, the ends of the pin are capped with cover plates set in bedding compound and fastened in place with screws. This simple system is completely watertight and easy to disassemble for centerboard maintenance.

Install the trunk with non hardening bedding compound and 3 1/2" bronze wood screws through the bottom from the outside, spaced 4" on centers.

Install a trunk cap with a pennant hole and cleat.

Cutting the Slot

From the plans, find the exact location of the trunk slot then, from the inside, drill a 1/8" index hole on the centerline at each extreme end of the slot location.

With the boat upside down, lay out the slot cutout lines using the index holes, measuring exactly half the width of the slot each side of centerline.

Carefully and precisely saw the slot sides and ends.

With the hull right side up, fit and install the trunk to fit exactly to the slot.

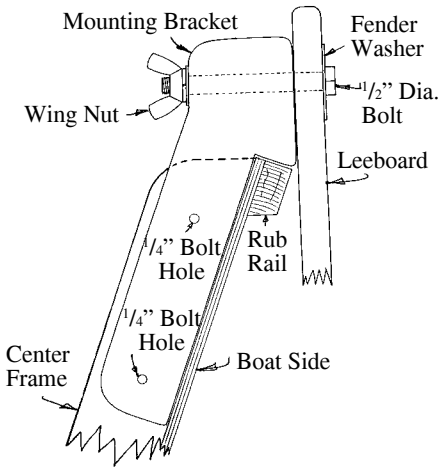
Leeboards

The leeboard performs the same function as the centerboard, but does so with much less complication. It is far simpler to fabricate, install and maintain and doesn't require piercing the hull or building and fitting a trunk to make the whole arrangement watertight. A leeboard occupies no cockpit space and that is an especially endearing feature in a small boat.

However, leeboards are not as efficient as centerboards and their mounting brackets provide nowhere near the strength of a centerboard trunk, so I use them only in small boats intended for protected water sailing. For that purpose I developed a leeboard system that is especially easy to fabricate, install and operate.

The bracket, made of 1 1/2" thick hardwood, requires no external hull guards or braces to fend off or support the board. It works well with a single board that doesn't need to be shifted from side to side when coming about. It requires no ballasting, is easily adjusted and it automatically pivots up when running aground. The underwater portion should be streamlined for maximum efficiency and to prevent vibration.

Like all leeboards, it needs to be mounted at or near the widest part of the boat, and must be parallel with the centerline of the boat so it tracks straight. The board is mounted on a bracket that is, in turn, bolted to the center frame, and since the frame lies on a plane at 90o to the centerline, the board is automatically oriented correctly. The pivot pin is a heavy (1/2" diameter) bolt with a large wing nut that tightens down to hold the board in position, but still allows the board to rise on grounding.



From the Lee Rail

By C. Henry Depew

The incandescent light bulb is going slowly into the history of lighting (like candles, oil lamps and the like). This is too bad because an incandescent light bulb has some uses that have nothing to do with providing light. The incandescent light also provides heat. This aspect is helpful for such applications as keeping the inboard engine from freezing during winter and providing the outside cat with a warm location in the garage. For the boat engine, I used my 100watt shielded work light. I put it under the engine and with the insulated engine box down the heat from the light kept the engine "warm" when the temperature got down to freezing.

For the cat, a 50watt light was placed in a metal tea kettle (sort of a Franklin Stove) on the work shelf with an old rug beside the tea pot. The engine did not freeze and the cat seemed quite happy. I no longer have a boat with an inboard engine in the yard and our only cat stays in the house at night. Thus, while nice in the past, an incandescent light is not longer a necessity for outdoor uses at our house.

Another item that has seemed to vanish with changes in technology is the matchbook. For some reason the standard, opened matchbook was the right thickness to check the gap on a spark plug. If there was clearance, you need to tighten the gap a bit. If the matchbook would not pass through the gap, you needed to open it a bit. Now you need to purchase a gauge to check the gap.

One of the constant concerns on a boat is the electrical connections and corrosion at the terminals. This problem can happen with non boat connections. Our vehicle would not start one cooler morning. It acted like a dead short. I checked the connections at the terminal and all seemed tight. A neighbor came over with his Jeep and we tried jumping the battery to start the engine to no avail. Even connecting the negative jumper connection to the frame to bypass the battery did not work.

At that point we took the connections to the battery apart and found that the cable connection inside the negative terminal had corroded. My only replacement terminal connection was for a positive connection (negative connections are a bit smaller) but I had a lead spacer (battery post shim) in the toolbox, so a new, tight connection was accomplished. The engine then started! Why it would not start when the battery was bypassed is another question that I am still researching as such a problem is usually the result of a bad connection at the starter (much more effort to get to and work on without a floor jack).

If you do not have a battery post shim or two in your tool box and do not want to purchase them at the auto parts store, you can make your own with a soft copper pipe of the proper diameter to fit over the negative battery post. If your selection of soft copper pipe does not have the proper diameter, you can cut out part of a larger diameter so you can collapse the pipe around the battery post or expand a smaller diameter up by cutting a slot (you do have a hacksaw with you?). At one time, I used a half piece of hard copper pipe to take care of the problem (in the field repair) as all that was needed was something to fill the gap and insure a tight connection between the terminal and battery post.

If you have one of the non electronic ignition systems on your inboard gasoline engine, you might want to check the connections from the rotator to the spark plugs. By this, I mean that you push in the connection on top of the rotator to make sure it is snug and do the same at the spark plug. I have found that, over time, the connections seem to vibrate a little loose. The engine still starts, but it does not seem to "run properly." If the connections at both ends of the spark plug wire are tight, then it is time to look at the timing or the carburetor.

A fellow yacht club member told me about a open source navigational software program that sounds rather interesting. The program fits on his laptop and uses the free NOAA electronic charts. OpenCPN is a free chart plotter and GPS navigation software program. The (GPLv2) project was developed by a team of active sailors using real world conditions for program testing and refinement to create a concise program for use underway or as a planning tool. The most recent stable version, OpenCPN 3.2.2, was published on May 8, 2013. For more information, go to: opencpn.org/

When one reads about infrastructure maintenance, the subject is usually roads, bridges, water/sewer systems and the like. However, there is also the maritime infrastructure that needs maintenance. All of us who go out on the water utilize aids to navigation, channels and the like. These aids need maintenance that is sometimes sorely neglected. One of the early endeavors to enhance safe coastwise navigation was the intracoastal waterways along the Atlantic coast of the United States. Originally set up for commercial traffic, this engineering feat is now mostly used by pleasure vessels because the channels are too shallow for viable commercial traffic.

There is an interesting article on the problem of channels too shallow for commercial traffic and thus no commercial traffic and thus no funding justified to maintenance dredge the channels for commercial traffic in the November 2013 issue of *Marine News* starting on page 28. You might want to get a copy and read as the material makes a good case for improved channels for commercial traffic (and thus for the pleasure boating public).

In the meantime, maintenance dredging of the St Marks River (near my area of Florida) is no longer justified for commercial traffic as the oil tank farm at the city of St Marks is closed and the power generation station further upriver now uses natural gas. For many years, those in pleasure boats had to keep an eye out for the fuel barges pushed up (and down) the river by tugs. However, the tugboat barge combination justified the maintenance of the river as a commercial waterway. Now, who knows?

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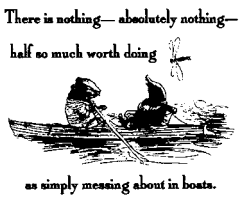

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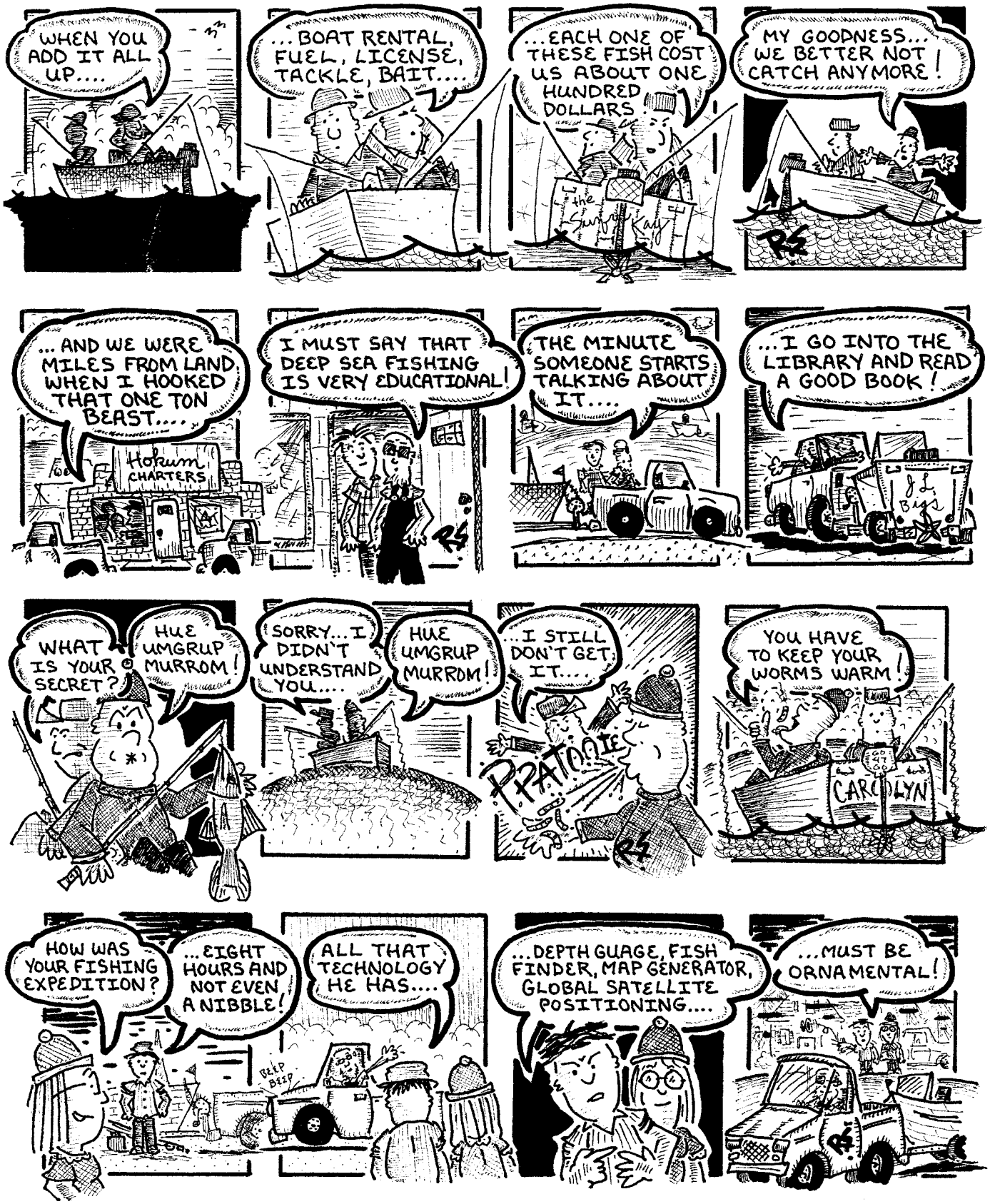
By: Robert L. Summers

Fish Stories



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